

Note Book

Feb. 9 - March 23 1930

Japan

W. J. Morse.

Written up

Konosu

Soy or Shoyu Sauce.

Variety used - high or low oil
high or low protein

Length of soaking beans.

Length of boiling beans.

Amount of beans used.

Amount of wheat used.

Amount of salt used.

Amount of water used

Bacteria added or not.

Length of mixed mash in ferment room

Temperature of ferment. room

Moisture of ferment room

Length of time in vats for curing

Analysis of sauce.

Amount of beans used yearly.

Amount of sauce sold yearly.

Where sauce is sold.

Use of mash left after sauce
is pressed out.

1971½

Soybean Curd - Tofu.

Variety of soybean used.

Length of time beans are soaked.

Method of grinding.

Amount of water used with beans.

Temperature of mill.

Temperature of coagulant.

Kind of coagulant used.

Amount of coagulant used.

Use of residue mash.

Price of fresh curd.

Price of fried curd.

Uses of fresh curd.

Uses of fried curd.

Amount of curd from certain
amount of beans.

Home On The Farm.

In the freshness of the morning.
On the brightest tide of noon.
In the quiet of the evening
When the world is all at one.

There's no place quite fills my longing,
No other place so full of charm—
Bless the dear old home—I love it—
On the Farm.

"Farmer Rusk."

Sunday-Feb. 9. 1930.

Tokyo, Japan.

Cold and raining. In the morning wrote letters to W. E. Ayers, Stoneville, Miss. regarding soybean work.

Also wrote Farmer Rusk regarding soybean work.

Worked on arranging soybean notes gathered in Japan, Korea and Hokkaido during the past season.

Also worked on arrangement of soybean products - numbers and photograph numbers.

In evening worked on investigation to be carried out over the soybeans during the

remainder of our stay
in Japan.

Postage-official

.20

Monday. Feb. 10, 1930.

Tokyo. Japan

Cold, raining and very windy during the morning. Went to the Consulate and received mail from Wilkins, Mr. Chapp. and a check for the det. Expense account.

Went to the National City Bank of N.Y. & deposit check and found you with \$49⁵⁸. Mr. Aikens advised that the bank had branch offices in Dairen, Mukden, and Harbin. Our account can be transferred to the Dairen Bank.

Went to the office and found letters from Ryerson advising of the success of the black and white movie

films that have been taken.

Date was made with Dr. Nakai,
Botanist of the Imperial
Botanic Garden for Med. for
conference on the small
seeded varieties of soybeans
used on the island of
Inchuan () off the
coast of Korea.

On returning to hotel
found there was some sort
of religious celebration
going on at the shrine
near the Sankaido Bldg.
Many stands were along
the road and also many
along the main st. near
the shrine. These stands
were selling all sorts of
things, and had many
sorts of cakes and candy.

At one stand some small round cakes of sugar candy filled with roasted soybeans were found and purchased one per each.

10 sugar-soybean cakes 20

In the evening went back to the shrine and found that many more stands had been put up along the road. At one stand the man was selling large triangular blocks of sugar candy filled with either roasted soybeans or peanuts.

10 pieces soybean candy 20

In the morning when Soyotake came, he bought two bags of tea and roasted

say beans. quite different
from any that we have
had before.

Roasted soy beans & tea (2)

In the evening wrote
correspondence, and also
notes on soy bean products.

Tuesday - Feb. 11, 1930.

Kumagaya. Omiya. Akabane

Left Surakuchiro Sta 8.40 AM

Arr Kumagaya 11.05 AM

Left " 1.35 P.M.

Arr Omiya 2.10

Left " 4.10

Arr Akabane Sta

P.R. fare (3) Surakuchiro to Kumagaya 1.03

" (3) Kumagaya to Omiya 1.03

Collected seeds.

Soybean sprouts.

Contrast between large and small soybean seed.

Large beans 3.40 oz.

Small " 3.60 oz.

Sprouts - Large

Best quality 41 shu beans 1.230 oz.

2nd grade - 1 shu " 1.130 oz.

Sprouts about 13 days

Small beans

Sprouts - 1 st grade	1.325 g
2 nd " "	1.729 "

Sprouts about 13 days.

Food value of Sprouts (fresh - about 100 sprouts)

100 weight 20.7 grams.

Moisture 93.37 %

Fat 0.03 "

Protein { Albumin - 0.86 } 2.34 "

{ Mono - " 1.48 }

Ash 0.38 "

Carbohydrates 3.38

Soybean & Corn meals

	Soybean	Corn
Moisture	92.53	87.75
Protein	3.02	3.50
Fat	2.13	3.42
Digestible Nut.	1.88	4.60
Fiber	0.03	0.00
Ash	0.41	0.75

Soybean curd

Tested by Dr. Sawamura.

Moisture	88.99 %
Protein	6.55 "
Fat	2.95 "
Fiber	0.02 "
Carbohydrates	1.95 "
Ash	0.64 "
	99.90

Japanese names of soybeans
Daizu, misoname, ~~o~~name,
Edamame, Azemame (=
beans planted on edge of
rice paddy), Oomame,
Chinese names of soybeans
Daizu, Gushi, Kidaizu,
Daito, Shiku, Kaishiku,
Kinshiku.

	Flour	Bl. suet	Gr. Suet	Gr. Suet
Moisture	10.25	11.09	13.46	12.28
Protein	25.69	40.25	36.71	42.85
Fat	18.83	15.26	17.43	13.58
Digestible Nutr.	38.12	21.97	24.93	23.68
Fiber	2.75	3.88	2.47	2.91
Ash	4.36	4.55	5.00	4.70

Small sticks of green soy
flour paste - "Shigaramia" .50

Small round cakes of
green soy flour paste - "Uzumaki" .50

Green soy roasted flour. .25

Green soybeans .10

Green soy bean candy 30

We left the Amakuchio

station about 8.40 and
went to Kurragaya to
search for soy bean products.
At one store we found a
variety of soy bean products
similar to the Tokyo.
This store also had a
soy bean flour - roasted
and greenish in color.
This is sold in bulk and
used in making many
sorts of confections. The
flour is said to be made
from a special variety of
small green bean grown
in a northern section.
Nearly at every confectionary
store we saw various
sized packages of Gokabo
which is a roll of

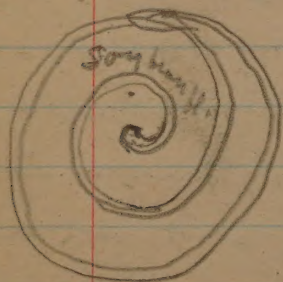
sweetened puffed rice
covered with a thick layer
of sweetened roasted
green soy bean flour. This
confection is manufactured
by three or four firms
in this place, and Kurma-
gaya is noted for this
product. It is, evidently
quite popular with the
people for at different
confectionary stores and
at the railway stations
many people have noticed
buying packages of it.

At one confectionary
store some fancy rolls
and other confections
made out of roasted green
soy bean flour were
found. These confections

very prettily formed, were
made by mixing sugar,
butter, and roasted soy-
bean flour together and
then shaping in the
forms desired and
decorating with a layer of
sweetened rice paste.



Shiragatori



Usurumaki

From Kumagaya we
went to Utsunomiya where
we looked for more soy-
bean products. We

succeeded in picking
some soybean cakes
and candy. All confectionary
store carried soybean
confections, such as the
cakes with chopped up
roasted soybeans, two
or three kinds of soybean
candy, roasted soybeans
with beanurd, sugared
coated soybeans of different
colors, puffed rice candy
of different shapes with
roasted black soybeans
in them, and roasted
soybeans.

We found many stores
that dealt mostly in
adzuki bean confections
of many beautiful
colors and forms.

Left Uruya at 4.10 P.M.

Ar. Akabane at 4.35 P.M.

Left. " at 5.00 P.M.

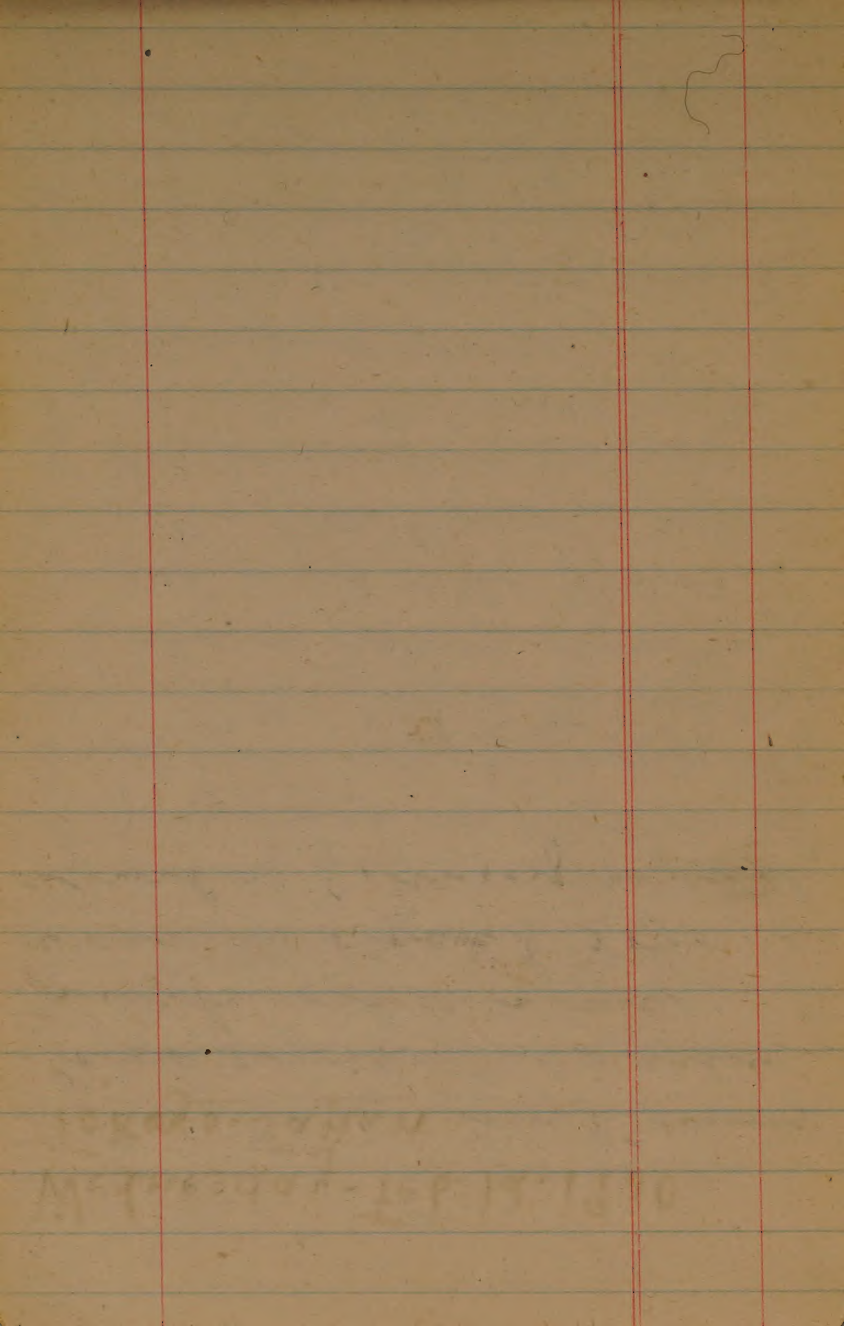
Ar. Surakubo 5.45 P.M.

From Uruya went to the Akabane station where we got off and looked around several of the stalls for soybean products. At one stall we found they dealt only in bean products. In one case they had a mixture of several different kinds of sugar coated beans. They also had different kinds of roasted soybeans and sugar coated roasted soybeans, and the same with peas and broad

beans. At the time of our visit they were roasting broad beans over a large fire, like our corn roaster, over a charcoal fire. The broad beans were first soaked for several hours - 8-10 - and then allowed to drain thoroughly. After this they were roasted until a light brown.

At another stand we found some cakes much like macaroons covered with sugar and chopped up roasted soybeans on the top. They also had small cakes bent double (U) in which were chopped roasted

soybeans. At another
stand there were quite
large pieces of sugared
puffed rice with
roasted black soybeans
scattered throughout.



Wednesday - Feb. 12, 1930.

Tokyo, Japan. Cold & windy.

Zoysia japonica is a native of Korea and very hardy. Grows throughout Korea.

Seed of *Z. pungens* and *Z. japonica* is not viable and can only be propagated by roots. *Zoysia tenuifolia* is also a warm weather grass and only grows in the Southern parts of the Japanese Empire as is also the case with *Zoysia pungens*.

In the morning went to office with two different soybean products collected yesterday at Kumagaya, Chiriga, and Akabane.

Mr. Sugitake brought from
a soy bean curd factory
the ingredients used in
the various steps of making
bean curds.

Dried beans, a mixture
of yellow and greenish
yellow Manchurian beans.
of medium size.

Soaked beans. The beans
had been thoroughly washed
and then soaked for
8-10 hours.

Ground beans. The soaked
beans are ground finely
with a stone mill. During
the process of grinding a
steady fine stream of
water flows in the hopper
for the mill.

Milk - obtained by

adding about 2 times
water as there is some
crash and then heating
slowly over a slow fire
for about 20 minutes.

Lime water and mustard
seed oil mixture which
is rubbed around the
edge of the bottle to keep
the milk from foaming.

The magnesium chloride
solution which is added
cold to the hot milk which
has been strained from
the ground soaked beans
and boiled. This solution
is slowly added and
precipitates the proteins
of the milk forming the
curd.

Bean mash - left after
The milk has been strained
out and pressed out, This
residue is sold as cattle
feed - especially to dairy-
men.

Fresh bean curd - which
had been placed in trays
and pressed into blocks.

All the products collected
yesterday were numbered.
Motion pictures were
taken of these various
products, and the entire
spool turned out excellently.

After lunch we went
out to the Imperial Botanic
Garden to see Dr. Nakai,
Botanist who has made
a thorough study of the
Flora of Korea and has

written several volumes
on the Botany of Chosen.

He obtained information
as to three varieties of very
small soybeans which
are grown on this island.

These are said to be native
Korean varieties and to
have been grown a very
long time. Dr. Nakai

thought that these varieties
had become "degenerate"
through constant years
of growing these varieties
on Juelpaet Island.

The people are said to be
very poor and unless
one goes early in the
spring, the seed, except
those used for planting

are eaten. Endemic forms of citrus are said to grow on this island.

We asked Dr. Nakai about a wild Broad Bean said to occur on island. He advised that it was not a wild form but merely an escaped domestic variety.

We also asked concerning *Bozzia juncea* near Hokai in northern Korea. We were told that *Bozzia juncea* is not a hardy grass, not surviving the winters even in Tokyo. It occurs only in the warmer southern parts of the Japanese Empire.

The species occurring in Korea is *Gyizzia japonica*, a native Korean grass.

This species is very hardy and occurs all over Korea and no more hardy in northern Korea than elsewhere in that country.

Neither *G. pungens* or *G. japonica* produce seed that is viable and the only method of propagation is with the rooted plants.

Another species, *G. tenuifolia*, is also a tender grass like *G. pungens* and occurs in the same regions.

After our visit with Dr.
Nakai we visited the
Jelium (Mume) plantings
in the Botanic grounds.
For the most part they
were in full flower but
the trees were rather old
and the trees not well
fitted with flowers. To
my mind the flowering
Jeliums are not attractive
but they are the first trees
to bloom and are quite
fragrant.

After returning to the office
we developed Black and
White Spool #39,

Thursday - Feb. 13, 1930.
Tokyo, Japan.

Clear, cold, windy.

In the morning a little after nine left the Shimbusho Sta. for to look up some bean shops and bean factories for soy bean products.

First went to a small factory where they used soybeans, peanuts and broadbeans in making candies and cakes. Two kinds of soy bean candy were obtained. This factory also makes soy bean and other confections by order.

We then visited another sugar factory where they

used soybeans, peanuts
and various other kinds of
beans in making many
kinds of cakes and candies.
In all places the soybeans
are first soaked until they
swell fully, then are drained
and roasted. After this they
are used the same as peanuts
in making cakes, candies
and other confections.
The confectionary stores in
this section were visited
and then we went to
another section and
visited some bean factories
and confectionary stores.
In nearly all the bean
places, medium-sized
roasted broad beans
fixed in the manner

of salted roasted peanuts
seemed to be very popular.
The following products were
purchased today:

3807.	Sakura okoshi	.18
3808	Manne keide	.10
3809	Manne cake	.30
3821	Hina arare	.15
3822	Hina arare	.40
3823	Hina arare	.50
3824	Ita manne	.12
3825	Ita manne	.12

3826	Koga Kura mame	.20
3827	Rikyū miso	.90
3828	Kinzangji miso	.75
3829	Iso arare	.50
3830	Suwama	.45
3831	Wakamatsuri	.30
3832	Tomoshirama	.20
3833	Shikishi Suwama	.35
3834	Kawara senbei	.15
3835	Ajitsuke Aonori	.90
	3 boxes green seaweed	
3836	Toki Miso	.35
	(1 small box)	

3837	Karin mame	40
3838	Azitsuke matamba nori 4 small boxes.	1 20
3839	Roasted soybean candy ^{balls} 2 lbs. 18 sen per lb.	36
3840	2 lbs. roasted soybean balls	40
3841	Hima atare	30
3842	Amegashio (candy) 3 lbs.	1.00
3843	Kuroneginame 2 lbs	1 00

3844

3845

Returned to hotel
about 8.30 P.M. Wrote

up and numbered
the products collected
today.

Friday - Feb. 14, 1930.

Tokyo, Japan.

Cold and clear. Went to office with soybean products purchased yesterday. Still pictures were made by Dorsett of the entire lot collected yesterday and then stills made of each product.

Movies were also made of the group lot, and also shots made of the following.

Soybean flour and the several confections made from it.

Roasted soybeans - covered with rice dough, sugar, and steamed.

At lunch went to buy boxes for sending products.

and purchased two more
soybean roasted flour
wafers at a small confectionary
store. These wafers have thin
layers of baked rice flour
and ~~at~~ layer of sweetened
roasted soybean flour paste
between, the the layer of
rice are various figures
burned in or blossoms
and leaves made with white
and green sugar. Also sweet
soybean flour paste balls (5)
on a small stick were
purchased.

Flour paste balls (soybean)	35
Soybean flour wafers	18

We stopped at a paper
store and purchased
50 sheets paraffin paper 50
afterwards we went

To the American Bakery and
bought cardboard boxes
10 cardboard (med) boxes
10 " " (small) boxes

1/4 lb. roasted seaweed bags - 20

Taxi from consulate to
Sankaido with, ³ official
passports 1 00

Spent day in packing
soybean products for
shipment to U. S. Dept.
3 varieties of soybeans and
from Tokyo Pref. Exp. Sta
and also ~~specimens~~ of 48
varieties of flowering cherries,
6 of pears, 1 of weeping plum,
and 10 of persimmons,
and plants of two varieties
of strawberries. From the
Saitama Sta. received

scissors of varieties of
years and persons.

In evening wrote Dr.
Pieters regarding Zygis
fungus, and Mr.

Donovan concerning
letters from Germany
and England on my bean
products.

Official postage

30

Saturday - Feb. 15, 1930.

Tokyo, Japan.

Cold and clear. Went to the
Office and found that we
had received the 95 varieties
of soy beans from the Ōk.
Expt. Farm at Umagari,
Akita Prefecture, northern
Japan. Also three varieties
of vegetable beans were
received from the Tokyo
Prefecture Expt. Sta. at
Tachikawa.

Helped in addressing
parcels of scions received
from the Suitama Expt.
Sta. Orawa.

Numbered the soy bean
samples from Ōmagari
and wrote some of them

up in the afternoon
and evening.

Arriving at hotel found
that Mr. Miyatake has
sent us as a surprise
several Japanese bean
confections.

- 1- Roasted broad beans.
- 2- Sugar coated peas.
- 3- Candy balls (red) with
peanuts inside
4. Baked paste balls with
roasted peas inside.
5. Candied adzuki beans.
6. Salted roasted soybeans
7. Candy (white) coated peanuts.
8. Roasted soybeans in baked
dough of different colors
9. Clusters of candy sugared
roasted soybeans.
10. Roasted shelled peanuts.

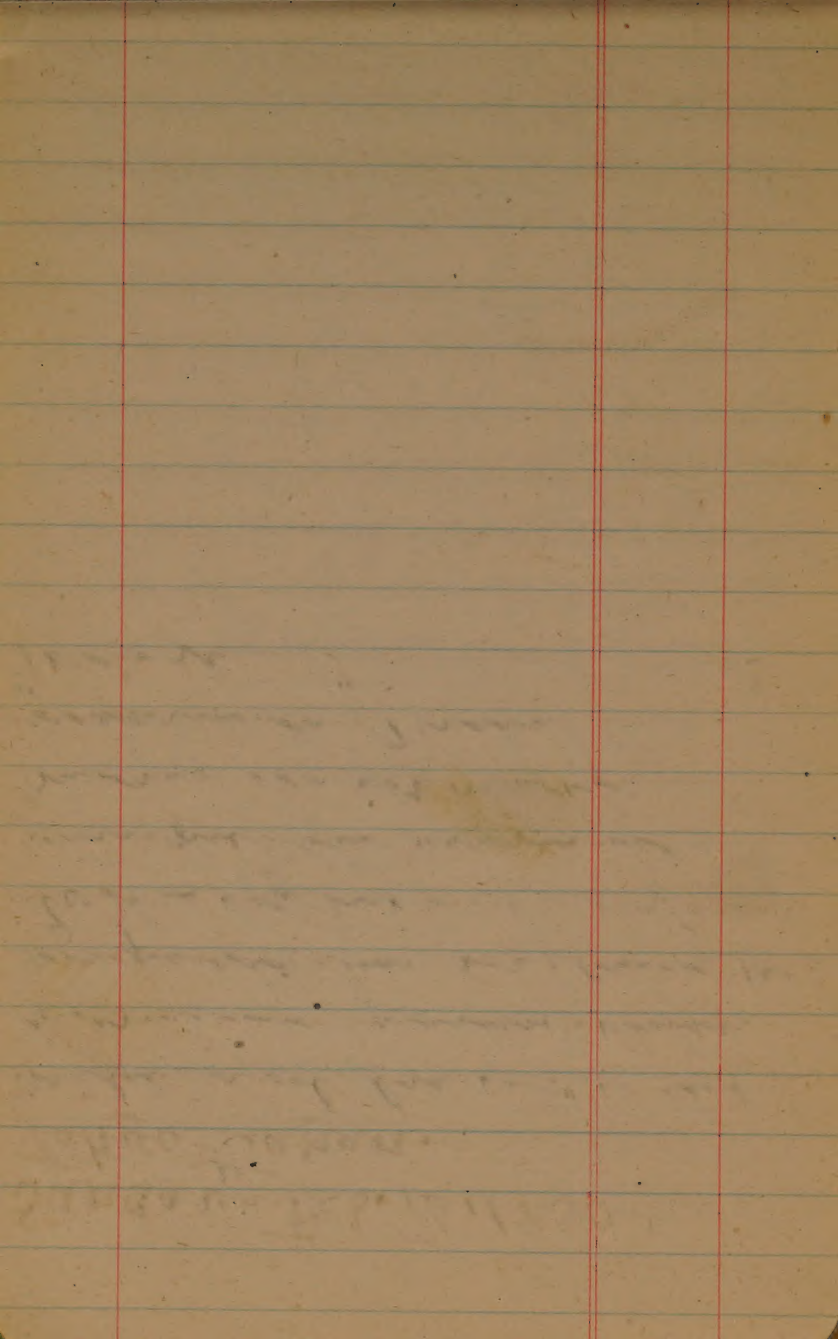
11 - Peanuts in shells.

In the evening Mr. Nakano
called with the two cans
of soy bean candy which
we purchased on Thursday.
Wrote up notes on soy bean
samples in evening.

Bushes - Bamboo with	50
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sugared soy beans	
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Postage	30
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Sunday - Feb. 16, 1930

Tokyo - Japan.

Mild and clear. In the morning, packed notes, maps, etc. for sending back to the office.

In the afternoon went shopping for ryukyu products. Visited the department stores and found string tatto done up in small triangular packages. Evidently there was a sale on for 4 packages were sold for 10 sen and a large number were being sold.

Three packages tatto 05

Many forms of miso were found in the food

departments of various
stores. Soybeans - sugared
roasted were noted in
the various confections
used for the dolls' Festival
Postage - Official 20

In the evening, worked
on writing up soybean
note cards on samples
from ~~the~~ magazin. Japan.

Monday - Feb. 17, 1930.

Tokyo, Japan.

Cold and clear. In the morning, went to the office and helped pack and saw up the sixteen parcels of scions of flowering cherries, pear and persimmon varieties that were received from the Tokyo Prefecture Ex. Sta. Tachikawa, Tokyo.

In the evening wrote up note cards on the varieties of soy beans received from the Ok Ex. Sta. Amagari, northern Japan.

Wrote letter to Mrs. Donnan regarding the names of European pines.

and persons interested
in soybeans and soybean
products,

Postage _____

40

Tuesday - Feb. 18. 1930

Tokyo - Japan.

Cold and clear. Left about 9 A. M. for a Tokyo suburb, in a section where soybean and other bean products are said to be manufactured extensively.

We found rather a large section where all sorts of confectionary products were being produced by a very large number of small places. Several streets with one place after another were either manufacturing bean confections or were wholesale places for all kinds of confections.

Soybeans, adzuki beans,
 broad beans, and white
 beans were used, with
 perhaps soybeans and
 adzuki beans leading.
 The following products
 were purchased.

- | | |
|--------------------------------|----|
| 1. Jiyō Hōji cha (3) | 90 |
| Dwastub soybean Mxail Tea. | |
| 2. Chūen Kōshi - cookies | 05 |
| in fore - with 4. soybeans | |
| for eyes (8) | |
| 3. Taikōshi - fish cookies | 05 |
| 4. soybeans for eyes (8) | |
| 4. Usagikōshi - rabbit cookies | 05 |
| 4. soybeans for eyes (8) | |
| 5. Kuro sankaku mame'ito (17) | 10 |
| 6. Soma neji (17) | 10 |
| 7. Okame mame rakuigan (15) | 15 |

- | | |
|--|-----|
| 8. Sumana (8) | .10 |
| Soy fl. rafer | |
| 9. Kurumame karinto (17) | .10 |
| 10. Aomame (17) | 10 |
| 11. Sanroku mame ita (17) | 10 |
| 12. Small bl. seed with
green germ. | 05 |
| 13. Shio daizō (1 lb) | 09 |
| Salted roasted soy. | |
| 14. Takura mame (1 lb) | 16 |
| 15. Chin myōtō (1 lb) | 20 |
| Roasted bl. & yell. soys. | |
| 16. Karu mame (1 lb) | 15 |
| 17. Mame Taroshi (17) | 10 |

- | | |
|----------------------------|----|
| 18- Akamedama (17) | 10 |
| Pink rice cake & soy beans | |
| 19- Shiromedama (17) | 10 |
| white rice cake & soys | |
| 20- Satou mame (1 lb) | 38 |
| Sugar'd bl. & yell. soys | |
| 21. Neji mame (17) | 10 |
| 22. Sankaku mame (17) | 10 |
| 23. Aomame ita (17) | 10 |

In the evening wrote up
the soy bean products and
gave D.M. numbers.

In looking up the soy bean
products it was found
that greenish yellow varieties
were used for the most part.
The beans are always first
soaked in the water for
8-10 hours or until the

beans are soaked to full size; When warm water is used or in the summer time less time is required. The beans are then roasted in large proppers over a charcoal fire. The roasted beans are used in the same manner as roasted peanuts, When coarsely ground they are used in wheat flour and rice flour cakes and cookies, as salted roasted beans and in many kinds of candy.

at two or three places the roasted green soy bean flour was being used

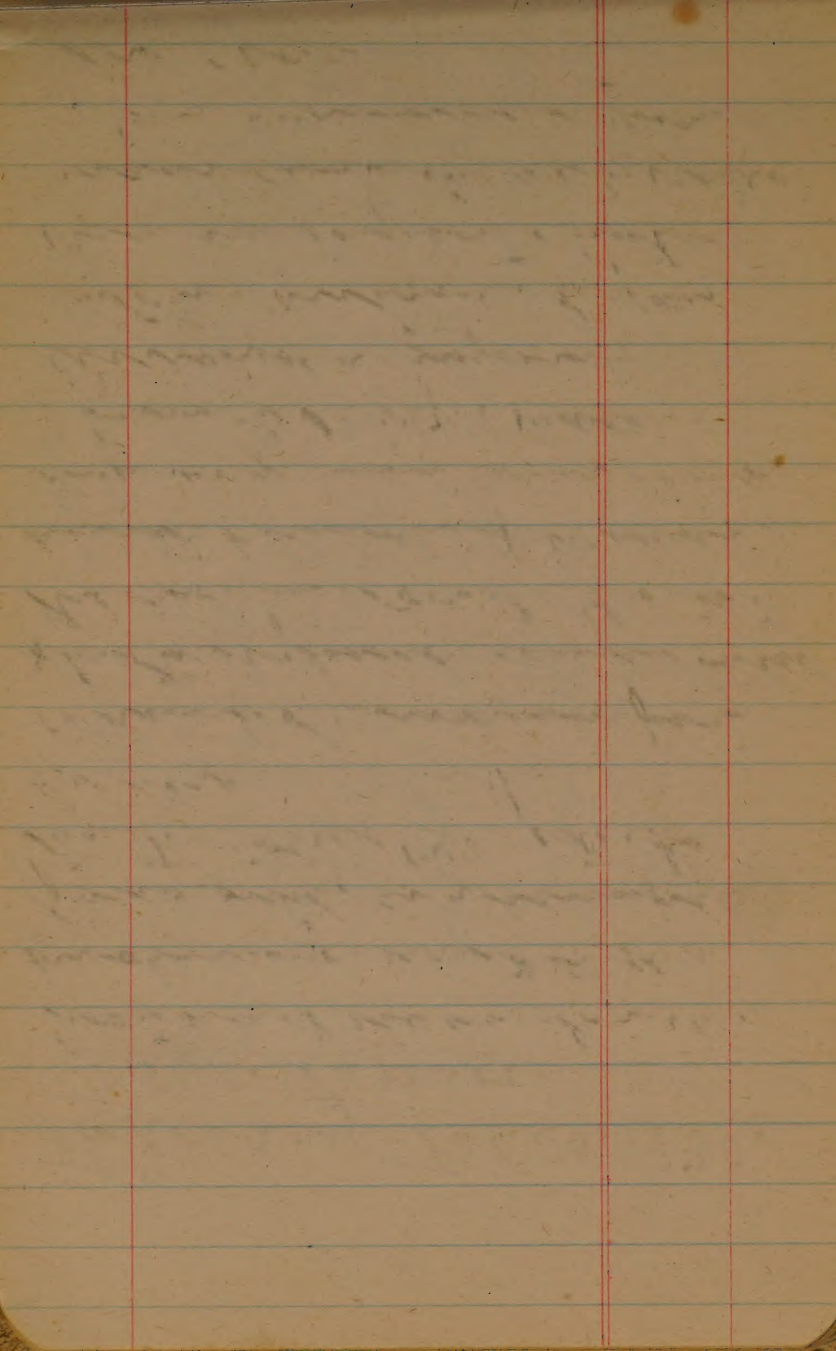
in making confections.
the flour being made into
a sweet paste, and used as
a covering for sweetened
rice paste or as a filling
in wafers. The soy bean
flour is also sprinkled
over certain kinds of
adzuki confections and
also rice paste confections.

Wednesday, Feb. 19, 1930.
Tokyo, Japan.

Cold and clear. In the morning, went to the office with soybean products collected yesterday.
Postage 20

Arranged products for photographing. Came back to room about 4 P.M. and finished writing up soybean seed samples from Ok. Exp. Farm, Utsunomiya, Japan.

After supper, looked over Dr. Taylor's letter regarding the activities of the expedition for the year.



Thursday - Feb. 20, 1930.

Tokyo, Japan.

Went to office and
packed up cyanogen
products for sending
to U.S. Dept. Agr. for the
cyanogen exhibit.

Also took moving picture
shots of products collected
the 18th. Four different
shots - close-ups - were
taken.

Spool No. 40 was
developed and was a
little overtimed for
the most part but all
will print up good.
In evening worked
on special letter -

say thank you for
Dr. Taylor.

Friday - Feb. 21. 1930.

Tokyo, Japan.

Left Murakuchi at 8.40 A.M.

Arr. at Uji station at 9.05 A.M.

Arrived at the Nishigakara

Exp. Sta. about 9.15 A.M.

At the station we met Dr. H.

Teras who had studied under

Dr. East at Harvard several years

ago. at present he is chief
plant breeder of all experimental
stations and has done much
work in the genetics of soybeans.

In recent years, he has not
done much with this crop.

as most of his time has
been spent on barley, wheat
and rice breeding. We
were given publications

on the breeding of these crops
as well as soybeans.

Dr. Teraso studied with
Dr. Park of Illinois under Dr.
East.

The experimental farm of
the Nishizuhara Exp. Sta. is
located at KOMOSU and has
about 50 acres, half of which
is upland and half low-
land. Rice breeding is
the principal work carried
on though wheat and barley
are also worked with. This
coming season rape is
to be worked with concerning
varieties most suitable
for rapeseed oil production.

Dr. Teraso advised that
soybean seed production
is carried on entirely in
Hokkaido and northern

Japan where the land is
cheaper. In southern and
western Japan, soybean
seed production is not
profitable on account of
high priced land, and
where intensive farming
must be carried on. In
the southern and western
parts of Japan the soybean
is used extensively for
green manure purpose
and special varieties have
been bred for this purpose.
Many of the stations are
working on the breeding
of special varieties for
forage and green manure.

Sendai miso originated in
Sendai Prefecture during the
Tokugawa administration.
This miso is never cured
more than 2 weeks. It is
ready for the market in a
week or two days. It is manu-
factured in the most simple
way. This

This company ships miso
to Hawaii, California and even
N.Y. City but the form of miso
sent is cured much longer -
from 3-6 months and this
form will keep 4-5 years.
Also ship to European countries
and southern Pacific islands.
Soak - 7-8 hours but varies
with season and moisture
condition of soy beans. At
this time of the year the

Beans are soaked 7-8 hrs
but in summer 3-4 hours.
Half polished rice is
best, and after washing
the rice is soaked about
same as any beans as
season but at this time
rice is soaked 2-3 hours,
not so long as any beans.

After soaking 7-9 hours
the beans are brought to
large tubs and steamed
8-10 hours, at 10 lbs. steam
pressure. Rice is steamed
1-2 hours.

After rice is steamed
it is brought out and
spread out on mats.

Thinly to cool and dry
out.

"Miso Making Kuru"
These were used by Lord
Surrender Detle in the
year of Kaiki, about 200
years ago from the
beginning of Meiji. In
all about 300 years.

These were used for
washing ~~boiling~~ boiled
beans in the making
of miso at Sendai.

This factory produces
1,200,000 kan (10 lbs) of
miso yearly. They use
10,000 koku of soy beans
yearly and about 7,500
tons of salt.

The miso tubs (about 200
lbs net) bring 10-13 yen
wholesale price.

Wine supported in tubes
holding 40 lbs. wet and
sell for 2½ - 3 yen each
delivered in San Francisco
includes cost of wine, insurance,
tax, duty, freight. The tubes
for export are rather more
coarsely as they must be stronger
and have a wooden head.

One of the very interesting
sights at this factory
were three large washing
tubs used in the manufacture
of wine. The skins after
being boiled were washed
in these wooden tubs
in these tubs which
were hollowed out from
three trunks and

was in use by Lord
Goramon Date at
Sendai, 360 years ago.

We were given permission
to take pictures of the
various steps involved in
the manufacture of miso.

1- Soybean cobbles	15
15	

2- Soybean miso wafers	15
15	

3- Soybean skin and Akanne cakes.	25
--------------------------------------	----

Saturday - Feb. 22, 1930.

Tokyo, Japan.

Mild and clear. In the morning went to the office and packed up soybean products for sending them back to the states. Parcels up to 158 were packed and sent up for sending by the Diplomatic Pouch Monday, Feb. 24.

After lunch, Sugitake and I went in the Tameike Section to look up soybean products. At a few bean factories and confection stores we found four or five products which we had not found before.

We then went down in the
Shingik section and
found several confection
stores in which we found
several more soy bean
products as follows:

1 -

2 -

3 -

4 -

5 -

6 -

7 -

8 -

9

10

11

12

13

14

15

16

Several more and say
same factories were noted

in this section. It should
be a good place to visit
to get additional data on
size and sex ratio and
also some pictures.

In the evening wrote
official correspondence
and wrote up some day
notes.

Sunday - Feb. 23. 1930.

Tokyo, Japan.

Cloudy and mild. In the morning did some packing. After lunch went to the Mitsubishi Department store where they had an exhibit of bamboo articles and other agricultural products from . They had all sorts of articles - ornamental and practical made from bamboo. There was also a display of ginseng and of very large round white Japanese radishes which were the largest I have seen in Japan. There were

large tubs of thick slices
(about 1 in) of these radishes
preserved in brine. A
sample was tasted and
found very good. A half
slice was purchased for
photographing.

Daikon preserved in brine .50

The evening was spent
in writing up the soybean
products collected yesterday.

Monday, Feb. 24, 1930.

Tokyo, Japan.

Dale with Dr. Teraso at the
Nishagahara Exper. Sta.

Taxi fare to consulate 1 00

Taxi fare to Sunbaido. 1 00

Prof. Nakae Enomoto.

Tokyo Kyoto, Japan.
Agronomist.

Plant Breeding - to study
crops -

A. R. Warner.

Dr. Burlison.

Dr. H. S. Hughes -

Dr. W. A. Taylor, ^{Dr. Wright}
^{Dr. Hadden}

Dr. J. B. Park -

Dr. Wianko -

Dr. Prof. G. Hendry. Calif.

Prof. R. A. Moore -

Dr. H. K. Hayes - Minn.
Have letters ready for
Dr. Ferris by March 8.

Two experiment stations
in Manchuria one in the
north and one in the south
owned by S. Man. Ry. Co.

Near Dairen - at Kiroshu.
There is a Gov. Exper. Sta.

Small seeded varieties of
poor quality are grown
in southern parts of Japan.
Formosa & Looche Islands.

System of breeding - Soybean work.
Cheate Pref. Sta. Mr. Inazuka.

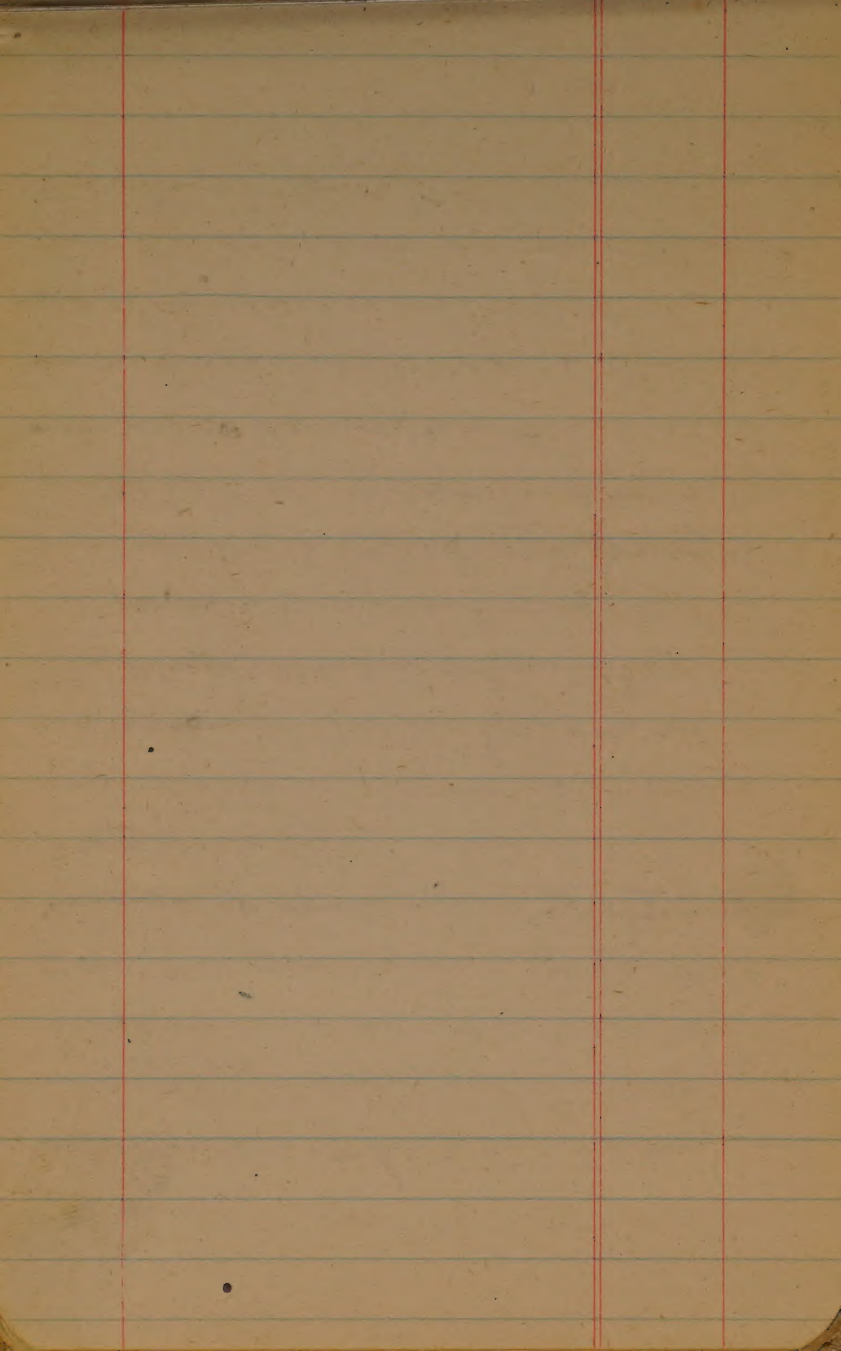
In northern parts of Japan
rice & soybeans most
important in rotation.
Until 6 years ago, soybean
work carried on extensively
at all stations but at
that time important work

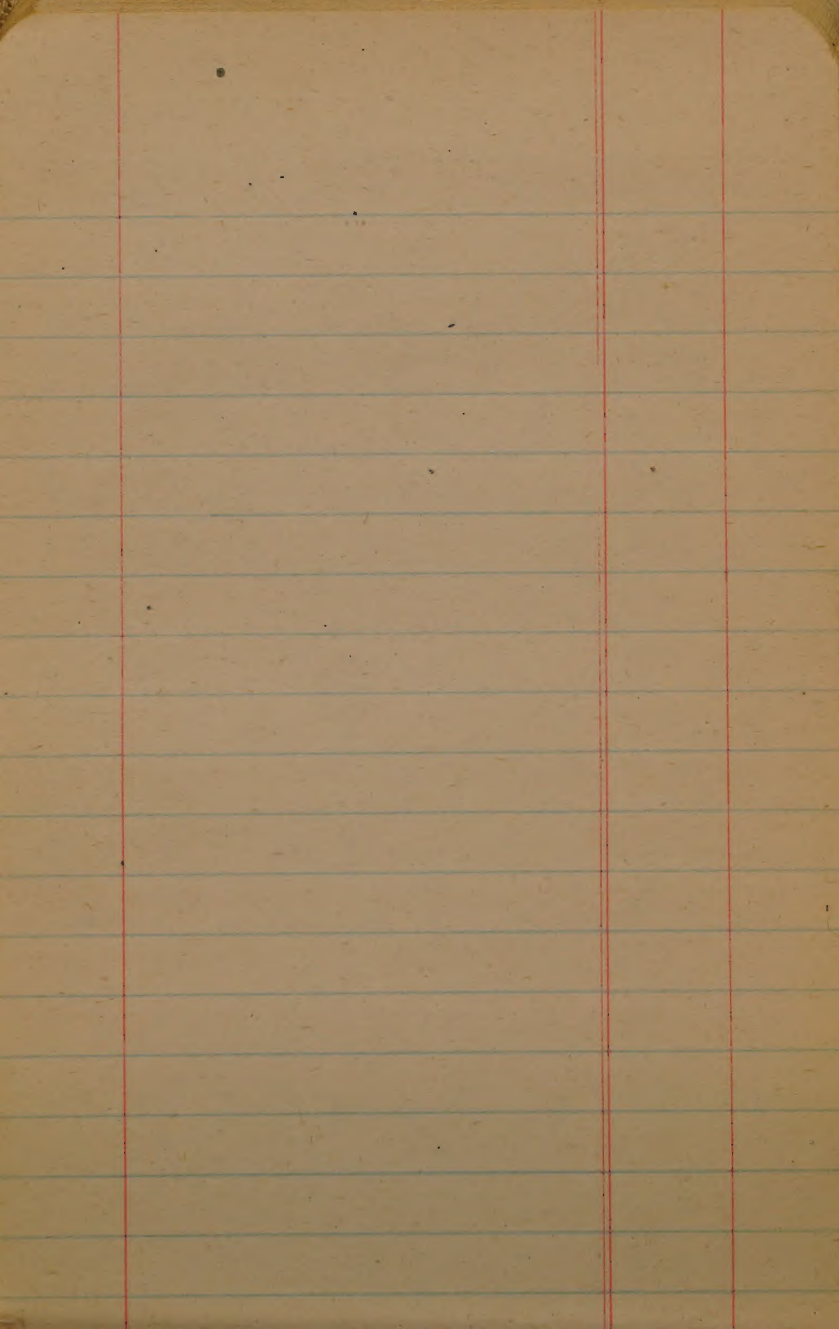
breeding work with soybeans
was largely abandoned.

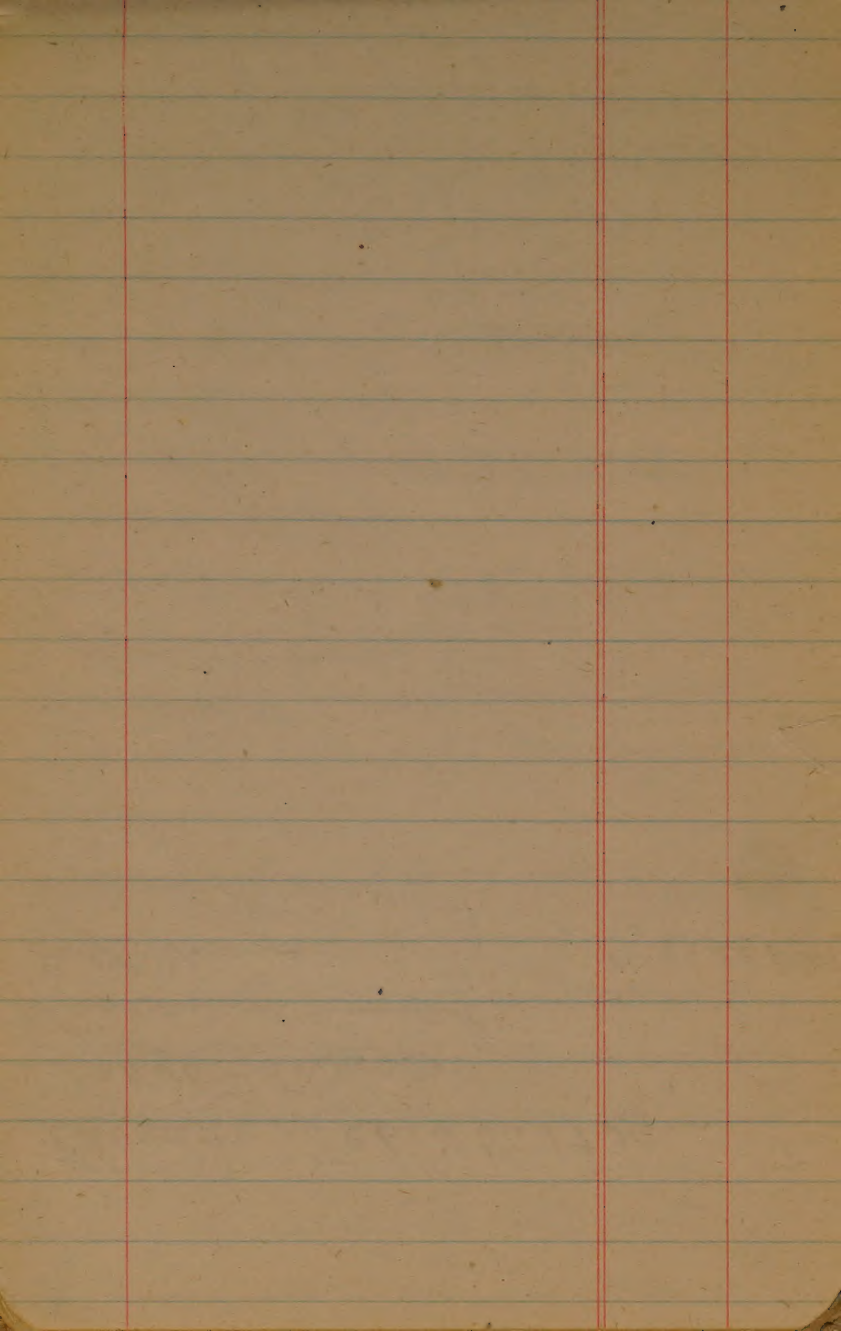
Soybean now considered
most important from the
green manure standpoint.
Special breeding work
with soybeans for green
manure carried on in
the Kurashiki Islands.

Special breeding work
being carried on with
Gerge (*Astragalus sinensis*),
at ~~some~~ three prefectures.

A special type of Gerge
is desired for winter
and for growing in the
northern parts.







Tuesday - Feb. 25, 1930.

Tokyo - Japan.

Clear and mild.

Left Ueno -

9.20 AM.

Arrived Kōriyōsu

10.45 AM.

Left " "

1.55 PM

Ar.

Dr. Terao: agr.

Nishizakura Sta.

Imper. Jpn. Dept. of Agr.

Varieties of soybeans -

Landis, Altostan, Biloxi.

Arrived at Kōriyōsu about
10.45 A. M. with Dr. H. Terao.

An station car met us and
took us to the Experimental
Farm of the Japanese
Imperial Dept. of Agr. Exp.

Sta., which is about 2 miles from Kōnosu.

The farm has a large number of well equipped laboratories, buildings and greenhouses. The greenhouses are equipped with electric heating apparatus.

The principal agricultural work is conducted with rice (upland and water-land), wheat, barley and rape.

Considerable work is being done with testing of wheat from all countries and the hybridizing of Japanese wheats with foreign wheats.

Great extensive work is being done with the study of rice varieties and

the rice plant.

Money has been allotted for the testing of the rape plant for seed production in the manufacture of oil. Varieties from all possible sources have been obtained and 166 are now under test and with these selections and hybridizing will be done to obtain the best varieties for seed & oil production.

Prassich reports according to Japanese cytologists has 19 chromosomes while German and other foreign cytologists

Only give this species
18 chromosomes. *Brassica*
campestris has 10 chromosomes.
Kale has 8.

We are shown through
the laboratories which
were especially well equipped
for wheat and rice in-
vestigations. There was a
milling room for wheat
in which quality of flour
from various wheats for
baking were studied.
On a study of wheats from
the various wheat countries
of the world, Japanese wheats
were found to average much
earlier in maturity. Several
very good baking wheats
had been developed by the
station through the
hybridization of foreign

wheats with Japanese wheats.

One of the most interesting studies was that of using a 1% Potassium Chlorate ($KClO_3$) in determining the winter hardiness of wheats, barleys, and rye. The seed are soaked in the chlorate solution for 20 hours, then removed and thoroughly washed. The seed is then placed on blotting paper in a germinating glass or small jar. In a few days, the less winter hardy will make a very vigorous growth while

the most winter hardy
is less resistant to the
toxic action of the $KClO_3$
solution and makes
rather a slow growth.
This method is also
followed with seed of
hybrids between hardy
and non-hardy varieties.
If hardy strains are
desired, the most vigorous
seedlings from the $KClO_3$
are discarded leaving
the less resistant seedlings
which are the winter hardy.

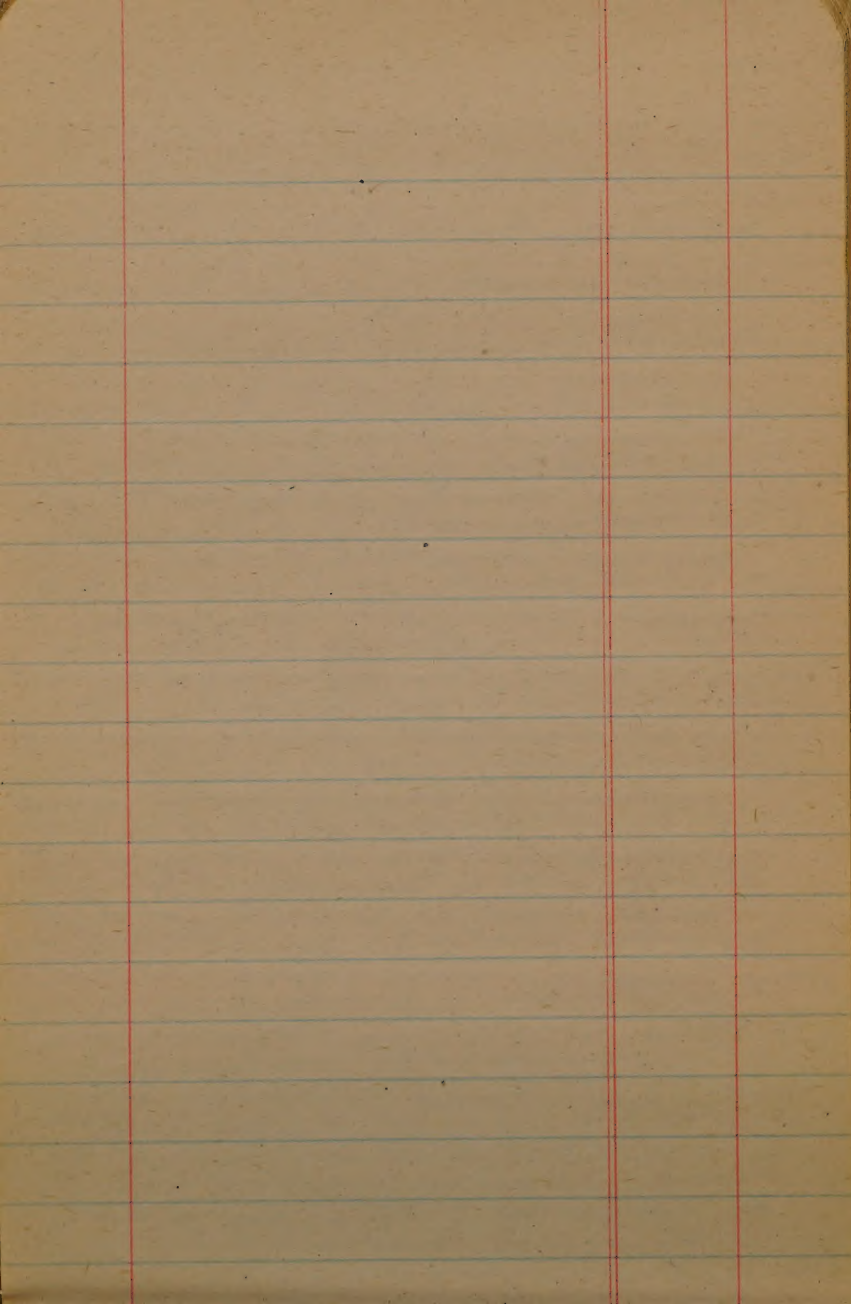
There is no antique
building devoted to
machinery but this for
the most part is for rice
culture, plows, hoes,
threshers, cultivators,
threshers, etc. There

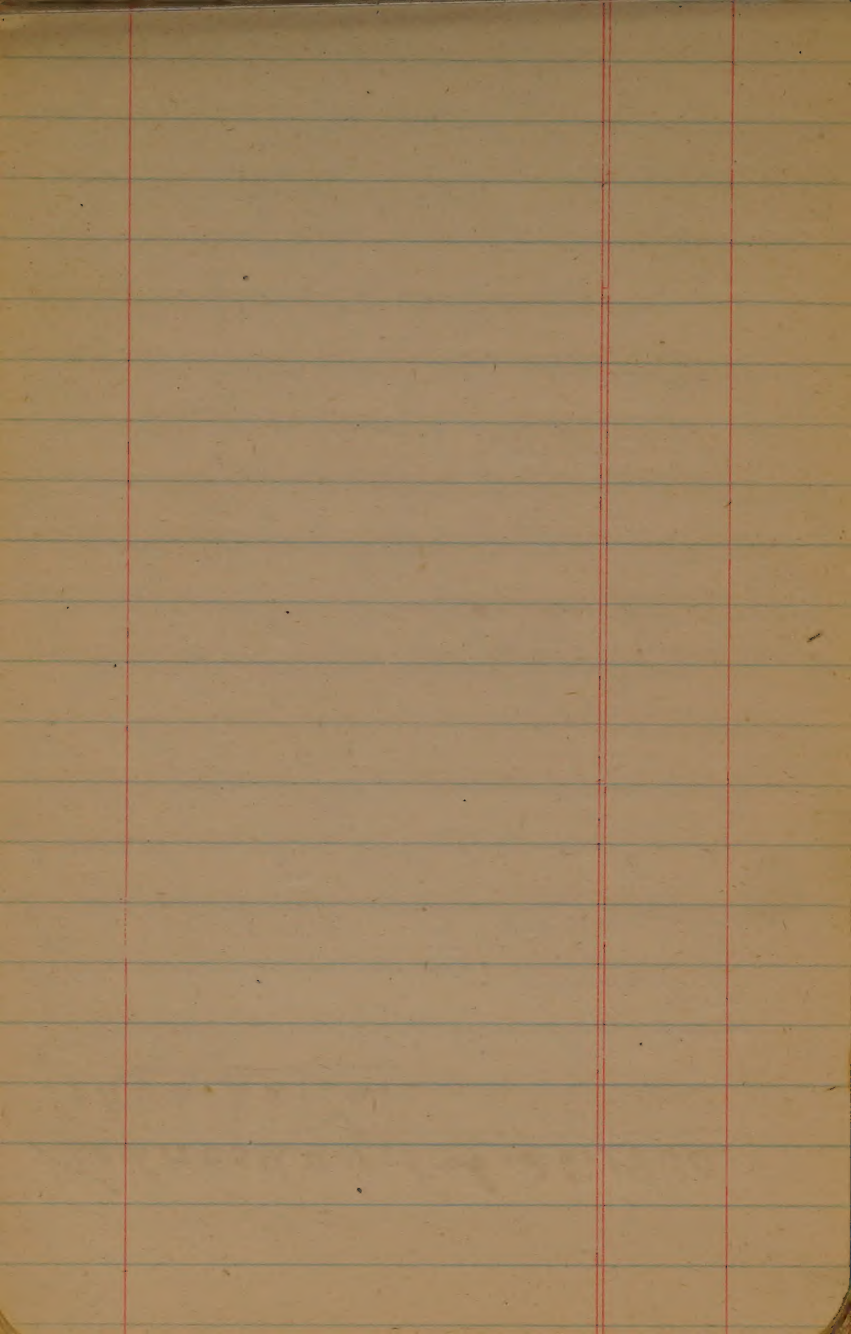
is rather a complete exhibit of old and new machinery. There are also some small threshers invented by the station for threshing out small bundles of grain and also one for threshing out single heads.

The tillering of rice plants is being thoroughly studied. Concrete tanks about $5 \times 4 \times 4$ filled with lime hold rice plants which are preserved with a formalin solution.

We were given 13 varieties of soybeans which had been collected from various

provinces and are solely
used for green manure.
Soybeans are grown at
this station only for green
manure. The seed are
sown between barley and
wheat rows when the
weather permits and
these plants are turned
under just previous to
rice planting. This method
of fertilizing rice paddies
has been found less
expensive than that of
commercial fertilizers.





Wednesday, Feb. 26, 1930.

Tokyo, Japan

Mild and cloudy in the morning. Went to the office with soybean products, addressed packages for sending to the U.S.

Wrote up soybean products for photographing and packed up about twenty packages of products for shipment to the U.S. Purchased 10 cardboard boxes for drying up products.

10 cardboard boxes.

70

Wrote up seed samples received from the

Shiragi-ken Regus. Sta.
at Mito Japan.

In the evening wrote
official correspondence
to Pieters, Ryerson.

Began raining in
the afternoon and
rained hard during
the night. Became much
colder and rain turned
into snow before morning.

Thursday - Feb. 27, 1930.
Tokyo, Japan.

Cold - Snowing in the morning but cleared up about noon. Remained in room and worked on official correspondence. Wrote Ryerson a miso letter giving him information regarding various kinds of miso, extent of industry and uses. Also advised him that several different kinds of miso were being sent him that they might be tried out in the U.S.

In the afternoon

went to the Matuya
Dept. store and found
a new soy bean confection
in the shape of a plate
or disk. This consisted
of sugar candy mixed
with roasted ^{beans} and
peasants, ^{beans} and
gruffed rice. It is
known as "Dragon's Eye".

Letter was written to
Mr. Ryerson, explaining
about our plans for the
rest of the trip, that is
work in Manchuria,
and China, and re-
turning home by way
of Europe in order to study
sugar industry in
Germany, France and
England.

Mr. Sugatake came

about 5.30. P.M. and
brought a package of soy-
bean seed sent in by
Mr. Lutz, of Heijo, Korea.

In the evening worked
on official correspondence
and wrote up itinerary
of February for expense
account.

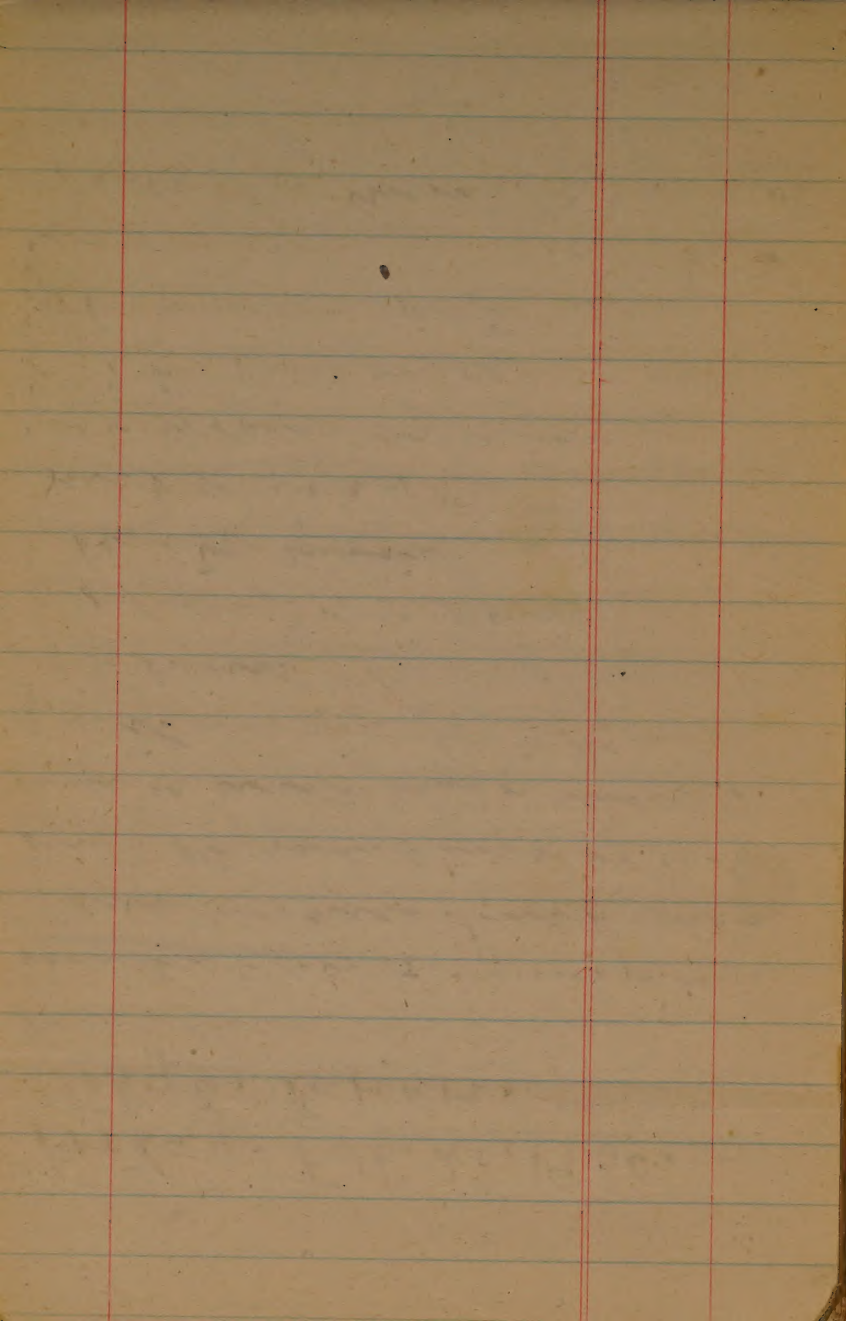
3 package of Soybean
Dragon Eye candy

1 05

Sent check for
money order to the
Sakata Fuel Co. at
Yokohama for
Kudzu seed
Official postage.

6 27

43



Friday - Feb. 28, 1930.
Tokyo, Japan.

Miso -

Sendai - miso - 3 m. or longer

Yeds - miso - mixed - mch.

With the yeds miso 60% of
rice is used and a lesser %
of salt.

12 Kobsu of dry soybeans -

14 " " " rice

15 % of salt.

Sendai Miso

14 Kobsu soybeans.

7-8 " " rice.

6 " " salt.

With the yeds the mixed
material is cured hot.
The hot beans and ~~hot~~

rice are mixed together
and placed hot in the
curing tubs. The rice and
salt are added cold. About
a mark is required for
this miso.

With the Sundai miso
the ingredients are cooked
and placed in the curing
tubs.

In making the rice
balls the rice is first about
one-half polished, then
washed, and then

The yaku miso is used more
by the higher classes of people
such as government people.
The Sundai mixture is
used more by the labor class.

The miso manufactured
is all sold and used in
Tokyo. The farmers use a
different kind to suit their
own taste and make it
themselves.

The miso used in preserving
vegetables, meats and fish
is made differently than the
miso commonly used for
soups. The preserving miso
has wheat in it instead
of rice.

The variety used in this
place consists of a mixed
lot of yellow varieties obtained
from Manchuria. The owner
in trying my beans for
miso found that the

beans were much better
for making miso from
south Manchuria than
from north Manchuria.
This is said to be also
true with other soybean
users in Tokyo; that the
south Manchuria beans
are of better quality than
the north Manchuria beans.
Soil and climatic conditions
are said to produce a better
quality of beans in south
Manchuria.

Beans are fed in soaking,
tub early in morning
and at evening water is
drained off, then left
until morning. Soaked
beans are then in morning
placed in steaming tub

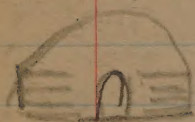
and steamed until
rising when steam is
turned off. Steamed beans
are left in steaming tub
until morning, when
they are taken out but
for Yedo miso ~~and~~
or taken out and cooled
for Sendai miso.

Rice malt: Rice is first
washed and then soaked
for 24 hrs. Then water
is drained off and then
as once steamed like
soybeans but only $\frac{3}{4}$ - 1
hour. Then after steamed
is spread out and
cooled off on mats. It

is stirred to keep fungus
growing together. The grains
are kept separately so as
to cool off quickly, after
cooled off brought to pit
which as one straw mat
sides where it is left
until next morning.
15-20 hrs. Next morning
is put in flat boxes
in fermenting room
for 3 days when it is
ready to mix with
beans.

Just after rice is taken
from pit and just before
placed in flat boxes, bacteria
is placed through the rice.
Koji bacteria is used
after bacteria - Koji - is added
the rice is placed in

the flat tops and the
round base placed in
the fermenting rooms.



The fermenting room
is kept at from
90-95° F and

heated by stoves.

About 12,000,000 lbs.
of miso are sold yearly
by this concern.

He was given a
sample of "Kurobana
Moyashi" which is the
rice bacteria used now
in the steamed rice
for making miso. The
package contains
sufficient bacteria to
inoculate 5 koku (25 bus.)

of steamed rice. It is
obtained by the Miso
Co. from a concern in
Kyoto and costs 35 sen
per package. The name
of the Miso Co. is

T. Asada Miso Factory,
Tokyo, Japan.

We were also given a
sample of the South
Manchuria beans used
in the manufacture of
miso.

From the miso factory
we went to Yamamasa Shoyu
Co. which is only a short
distance away. We met
Mr. S. Yamaguchi.

Yamamasa Shoyu Factory.
576 Nakano-Machi,
Tokyo, Japan.

This company sells
50,000 tubs of soy sauce
yearly, each tub
holding 5 gallons. A
tub sells for \$4.70.

Very little sauce is
shipped to the U.S. But
a few years ago the co.
shipped considerable
quantities of sauce to the
United States and Hawaii.

Soy sauce factories were
erected in Hawaii and
took the trade away. Mr.
Gamaguchi advised that
he had there were some
soy sauce factories run
by Japanese in the vicinity
of San Francisco. As

usual, it was stated that
it was heard that the
American people objected
to the smell of soy sauce
when used for cooking.

We were then shown
through the factory. We
first went to the wheat
roasting room. There was
a large cement tank
full of roasted wheat of
which a small percent
had popped.

The soy beans used are
obtained from South
Manchuria. The beans
are first thoroughly washed
and then put in the steaming
tub. They are steamed
from morning until
evening - 8-10 hours. The

steam is then turned
off and the beans are left
in the tub until morning.
In the morning, the
beans are mixed with
the crushed wheat, and
the culture (*Aspergillus
oryzae*). The mixture is
then placed in small
flat boxes and these are
placed in the fermenting
room where they are left
for about 10 days, the
temperature being about
90° F. The fermented
mixture is then placed
in the large curing tubs
in which has been placed
the salt water. The mass
for a short time is

stirred 3 or 4 times daily.
The stirring of the mass
in the tub is done by means
of air pressure from pipes
in the bottom of the tubs.
The mass is left in the tubs
to cure for a year. The
material is then taken
and the liquid pressed
out. Before being placed
in bottles or casks, the
sage sauce is brought
to the boiling point.
The mass () left after
the sage sauce out is
in thin slabs or pieces.
It is sold for cattle
and hog feed and also
used for fertilizer.
Two lbs. of this mass
is to be given us 20

that analysis may be made of the feeding and fertilizing value. This is to be sent to Mr. Carter at Holgate and he is to be asked to send the analyses, after completed, to Mr. Yamaguchi.

Mr. Yamaguchi has promised to send us the various ingredients used in the manufacture of soy sauce and will have $\frac{1}{2}$ gallon wooden casks made, filled with soy sauce, and given us for our exhibit.

The morning was spent in looking up a soybean product manufacture

After walking several miles through muddy streets, and being directed wrongly many times we at last found the place. We found that the man merely acted as agent for his brother who has a bean product factory in Osaka. He had only one soy bean product on hand but this we had already found. He promised to send us 15 samples of soy bean products at the Sankaido. To-day's work was in the Shingibu section of Tokyo.

Cloudy & cold in the morning and turned to rain & snow during the rest of the day.

Saturday - March 1, 1930.
Tokyo, Japan.

Cold and clear. In the morning went to office, wrote up seed, and soy bean products. After lunch went to various department searching for new soy bean products, many of which are said to resemble their appearance about "The Girls' Dolls' Festival" date, March 3,

First went to the Matsuzen-kyo Store and then walked down the Ginza looking up various confection stores, department stores and various

clean product stores.
The following products
were found.

84M,

4230	Wanairo sentei ✓	27
4231	Goshiki mamciti ✓	45
4232	Ita mame ✓	12
4233	Fukube ✓	20
4234	Asahi mame ✓	28
4235	Kikkorakugan ✓	30
4236	Mame heitoll ^{Small box} Large .. ✓	50 90
4237	Sangake-miso ✓	90 0
4238	Fukirujinke L (Sungkan vgo. pick)	54

4239	arrare-lantern (2)	1	80
4240	arrare-Rice Tub (2)		80
4241	Doll Stye	(1)	80

Many soybean products are put up especially for The "Dolls Festival".

Several kinds of candy similar to our peanut candies are made. The soybeans are roasted and then mixed whole in the candy.

In many wafers, cookies and small cakes the roasted yellow beans are ground up coarsely.

and mixed either in
wheat or rice dough and
baked.

In some sort of sugar
cakes, the soy bean flour
made from roasted yellow
beans are finely ground
mixed with rice flour
and sugar, then molded
in various forms, such
as were obtained in the
form of the faces of Okame,
Ebisu and various masks.

Sunday, March 2, 1930.

Tokyo, Japan.

Cool and cloudy. In the morning wrote up rayon products purchased yesterday.

In the afternoon we all went with Sugitake to the auditorium to see the celebration of the Girls' Dolls' Festival.

A full display of the dolls was on the stage. At first two little Japanese girls came on with the Festival wares, placing two bottles on the bottom step, then two other little girls came on with two small baskets

of sugared rice and
sugared roasted black
and yellowish green
suytrams. There were
placed beside the bottles
of sweet thick wine.

The children, kindergarden,
went through many
drills and sang several
songs. Two doll comedies
were also given.

As evening we went to
the home of Mr. Akiyama
where we had dinner
with the family. We had
rice in which was mixed
boiled adzuki beans. They
also had boiled wheat
in which was mixed
miso and some pickled
vegetables.

They celebrated the Dolls' Festival for us to show how the event is celebrated. They had two full sets of dolls for their girls. On the two bottom steps they had bottles of thick sweet rice wine made especially for the Dolls' Festival and which has only a small per cent of alcohol so that the little girls can drink it. Also there were baskets and dishes of candied puffed red & white rice, roasted & sugar. Black and yellow soy beans. A small plate of colored

cakes were in the form
of turtles, cranes, bamboo,
and pine to signify
long life and happiness
when the girls are married.

We first served the
dolls wine. Then we partook
of the sugared rice and
sugared roasted soybeans.

Monday. March 3, 1930.

Tokyo. Japan.

Mild and drizzling rain all day. Did not go to office but remained in room. not even going out to meals.

Note up itinerary for Feb. account and also worked on the Feb. expense account. Finished writing up the soybean products purchased Saturday.

Note letters of introduction to agronomists in the U. S. for Prof.

Enomoto, agronomist of the Kyoto Imperial University, Kyoto.

Also wrote some
official correspondence.
Looked over January
quarterly report.

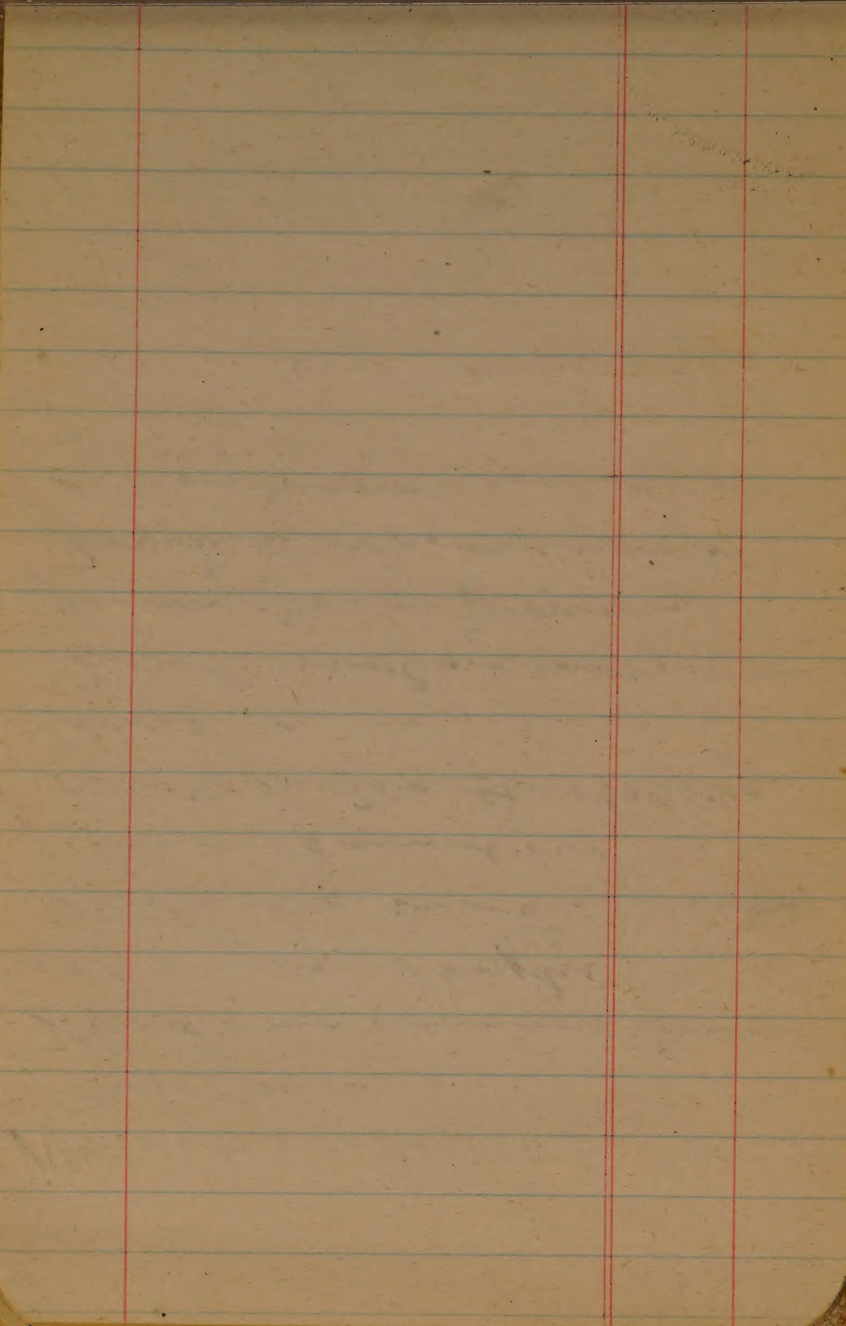
Wrote up motion picture
films nos. 39 and 40.

Tuesday, March 4, 1930.

Tokyo, Japan.

Cloudy and mild. In the morning went after mail at Consulate. Received letter from Lee and Claud Coots and check for Nov. 1929. expense account.

Remained in room during the day. Wrote official correspondence to Prof. Wilkins and Co. Agent E. V. Rusk. Also wrote to Lee regarding day team work.



Wednesday - March 6, 1930.

Tokyo - Japan.

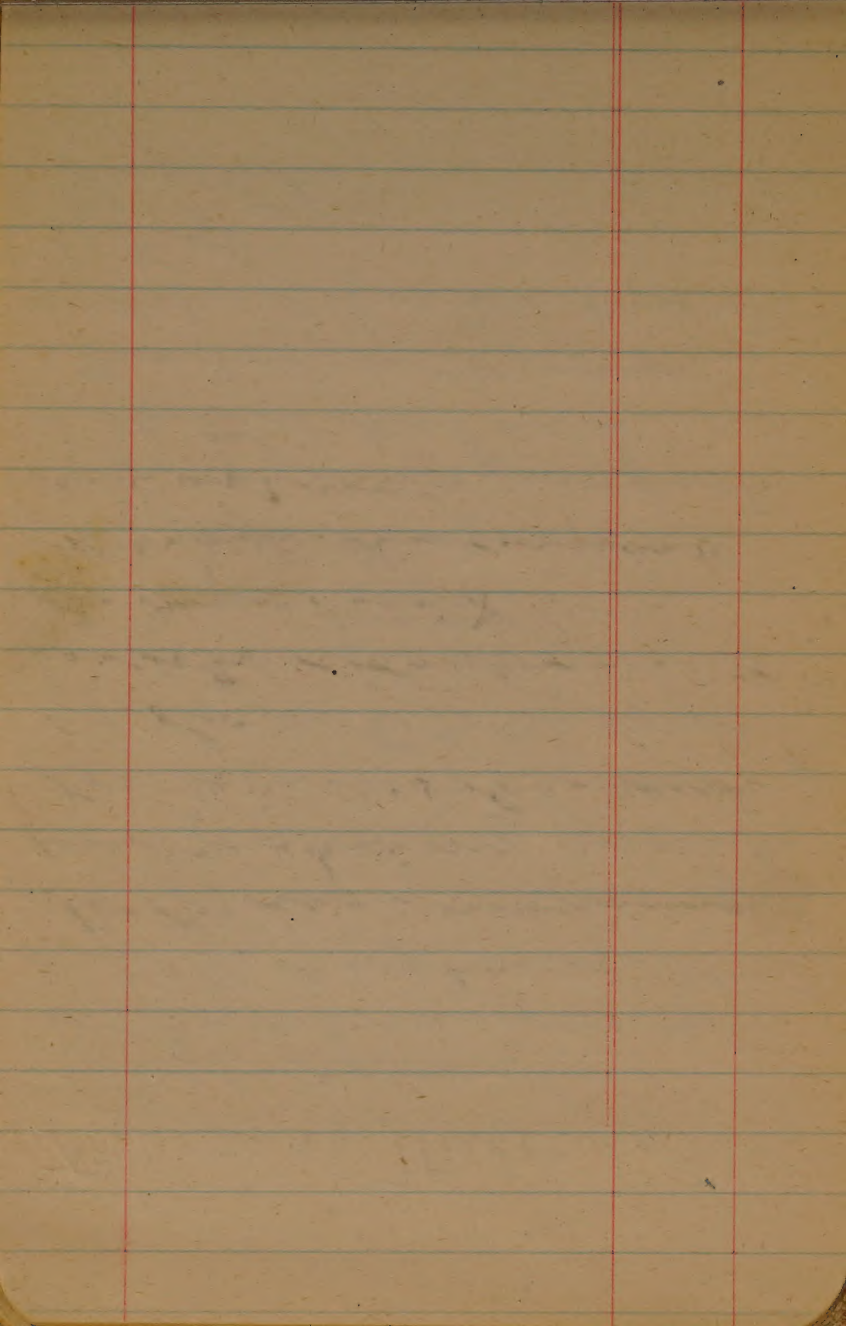
Mild and raining. Rained
all day and night.

Wrote up motion picture
films 39 and 40.

Wrote letter to Harry
Clayton.

Wrote notes on synthetic
products in Japan.

Worked on report
of synthetics.



Thursday, March 6, 1930.

Tokyo, Japan:

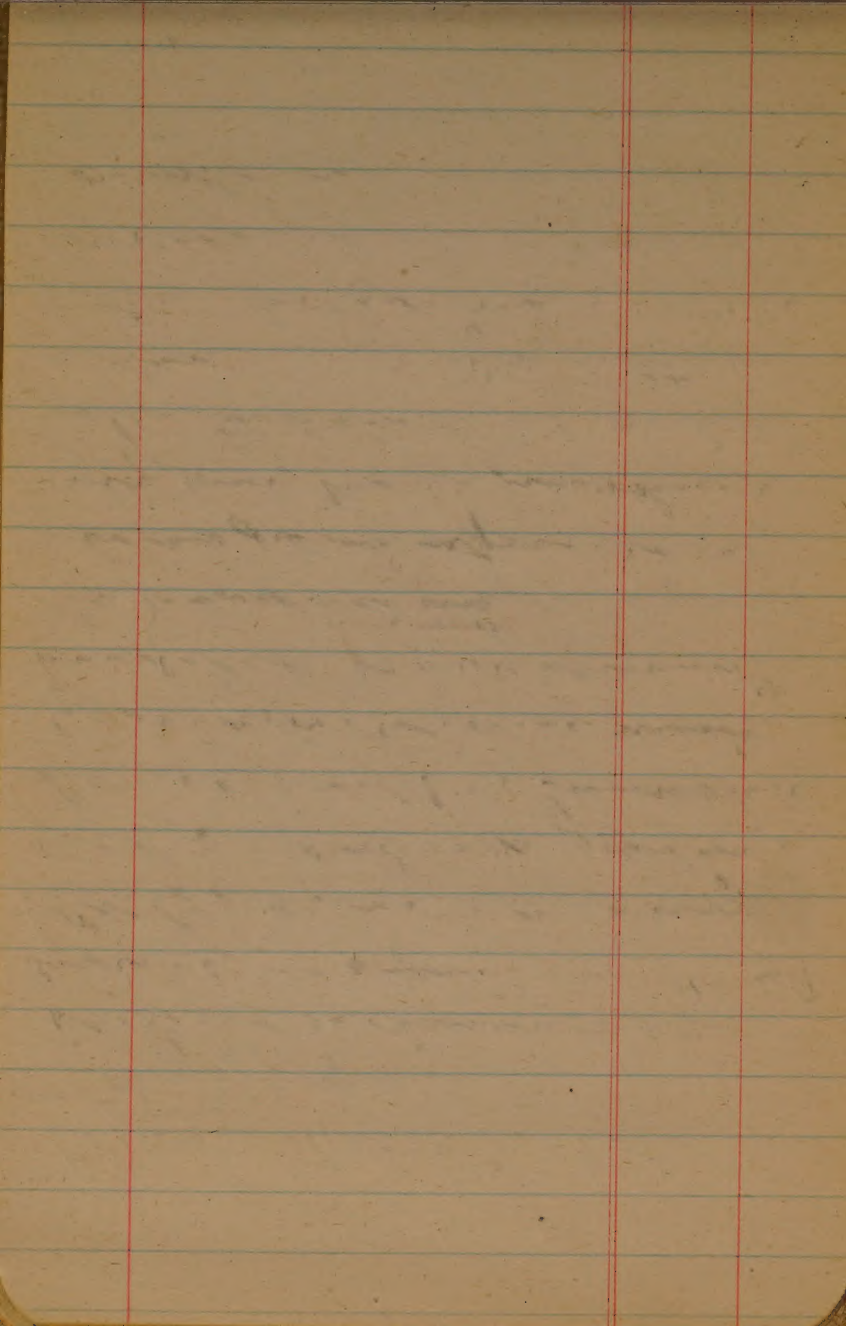
Cold and raining up to
middle of afternoon. Went
to office in morning
and packed up parcels
Nos. 168 and 169 consisting
of notes, notebooks, and
bulletins for shipment
to Department.

Also just unpacked
my suitcase products
collected last week.

Worked on expense
account for the month
of Feb.

Surgetake

¥10 00



Friday - March 7, 1930.

Tokyo, Japan.

Raining and snowing

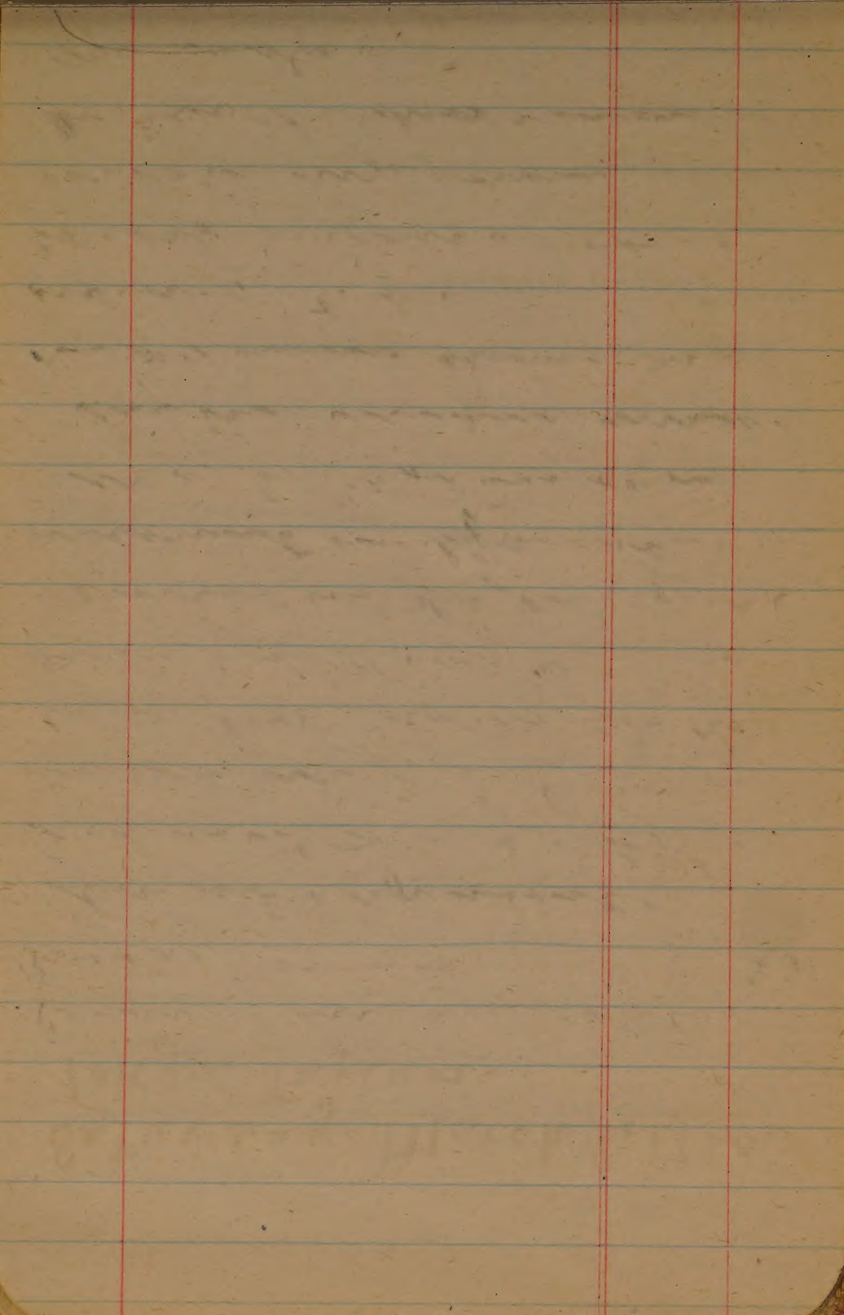
Postage ———.

49

Cleared up about noon.
Cold and windy. After
lunch went to bank and
had 2000. yen check
credited to my account.

Worked all day on expense
account and finished
all but the print slips.

In the evening worked
on Japanese agriculture
notes. Took over
correspondence and
wrote up some
notes on soybean
products.



Saturday. March 8, 1930.
Tokyo, Japan.

Rained all day. Cold.

Postage 26

Cold and raining.
Finished up expense
account.

Collected notes on soy-
bean products from
sources in the library.

Soy Sauce

Japanese soy sauce is
prepared in approximately
12,000 work shops, and
besides, it is made by many
private persons at home
for their own consumption.
The most renowned makers
are in the Kwantō District,

especially in the Chiba Prefecture, for instance, in Noda-machi, near Chiba, where the "Kikkoman" and "Higata" soys are made, and in the Kwansei district where they make in the Shodo isle, the well known "Marukitt" soy.

It is made of soy beans by fermentation and subsequent salting and used for flavoring food. Recently it has been exported to foreign countries in considerable quantities. The value of the export amounted to 1,400,000 or 1,500,000 yen the last year.

The chief market is

China because among
the Chinese there is a
special taste for it. Many
Chinese prefer it to the
Chinese soy sauce. Also
in Europe and America
some people fancy it
instead of the Maggi
flavoring extract.

Rained all day and
part of night.

Received mail from
M.C. Burritt. Dr. Horvath,
Office newsletter.

Wrote letters to Peters,
Cabley, and Ryerson
concerning the use of
 $KClO_3$ in determining
the winter hardiness

of varieties. This information was obtained from Dr. Teras while I was on a visit to the Konosen Sogaer. Sta. Feb. 25, 1930.

In the evening worked on notes.

Met Mr. Rock in the hotel lobby about noon. He is on his way from China (where he has spent two years) to the United States. He has been exploring for the Geographic Magazine.

Tokio - Japan. Sunday
March, 9, 1930.

Cloudy and cold. In the
morning worked on
official correspondence
and my business notes.

Wrote letter to Mr. Lee
regarding my business
work for 1930 both at
Hillington Farm and
Winnetka.

Official postage 20.

In afternoon went
to the Temple grounds
at Takanawa Sengakuji
Mae where the 47 Ronins
are buried. We went
through the grounds and
then looked for my name

products at the many
confectionary stores in
this section. Although
we saw many soy bean
products, there were
none but that we had
already collected on
previous searches.

In the evening it
began to rain again.

Monday - March 10, 1930.

Tokyo - Japan.

Cloudy & mild.

White rice -

Washed polished rice.
First ~~washed~~ ^{washed} the polished
rice thoroughly. Then the
washed rice is soaked
in water over night. Then
soaked rice is steamed
from $1\frac{1}{2}$ to 1 hour. After
steaming the rice is
spread out on mats to
cool off until lukewarm.
It is stirred so that the grains
are kept separately. Then
carried down to cellar and
piled up. The mold (koji)
is added. The pile of rice

is covered with steam
mats and kept 8-10 hours.

About 1 heaping teaspoonful
of koji used to 1 broken
of steamed rice. The koji
used here is a white mold.
First kept in cool room
and after the 8 hours
they stir thoroughly and
afterwards put in small
flat boxes (1x15x8) and
place in other room and
leave for 2 1/2 days. During
this 2 1/2 days the contents
of the boxes are stirred 3 or
4 times. Then the boxes
are brought out and
the mold rice (Koji) is
ready for the miso.

For making the white
miso about 2 1/2 weeks
The amount of soy beans

For 1 Koku of soy beans -
and $2\frac{1}{2}$ Koku of rice
100 lbs. of salt are used
This white miso will
keep about 8-10 weeks
during summer and
in the winter 2-3 months.
White miso is kept
longer during the summer
time longer by adding
20-30 more lbs. of salt.
Only about $\frac{1}{10}$ the amt.
of white miso is used
as of red miso in the
Tokyo District, in the
Kyoto District white
miso is much more
extensively used.
White miso is used

due to the unrefined
rice and is used for
soup, eaten with
vegetables or during meal
as Americans would
eat cheese. When more
salt is added, white
miso is also used in
preserving vegetables,
meats, and fish.

The white miso sells for
twice as much as the red
miso.

White miso soup is
used only on special
occasions and not in the
daily breakfast miso soup.
White miso soup is used
on memorial, birthday
or death anniversary
dates. Used on special
party occasions.

Used with rice as sandwiches
on picnics. Is eaten alone
with salads and alone with
other foods. Red miso is never
eaten alone as is White miso.
The Joshin variety obtained
from northeastern Korea is
used as it has been found
best.

For Watto the Tsurumoko
variety is used.

Mikawaya Miso Co (White)
Ryōichi Ayabe

Make special variety
of miso, koji, rice gruel.
and all three forms of
red miso. Only make
red miso for their help.
Watto. The Tsurumoko

soy bean from Hokkaido
is used in making
Natto.

The beans are washed
thoroughly and then
put to soak. They are
left to soak until the
next morning when they
are put on to steam
slowly. They are allowed
to steam until next
morning. Then the beans
are drained of water and
spread out to cool. After
cooling, they are packed
in the rice straw packages
and placed in the fermenting
cellar where they are kept
for three days, after which
they are ready for use.
This Natto will keep

for 3 to 4 weeks in the
summer. This the string
form of Natto. This natto
is just put in dish
and soy sauce or mustard
sauce spread over and
the Natto eaten in this
manner. The mustard
sauce is made with dry
mustard & rape seed or
mustard seed oil.

After fixed with mustard
sauce or soy sauce, the
Natto is placed on
hot rice and eaten.

The fermenting cellar under
the floor of the miso factory
is down about 15 feet in
the ground.



From the hole in the ground
fermenting rooms or
tunnels extend back about
30 or 40 feet. In some of the
tunnels which are about
6-8 ft. wide are racks on
each side  on which
the trays of rice are placed
for molding and are left
there for three days to develop
the mold. No heat is used
in these tunnels but they
are heated through the
heat developed by the process
of fermentation. By the
clouds of steam coming
from the fermenting rooms
it looked as though the
rooms were heated by
steam. The men working
in these rooms wore

Wheat gluten mixture -
Rice, mold -
Koji -

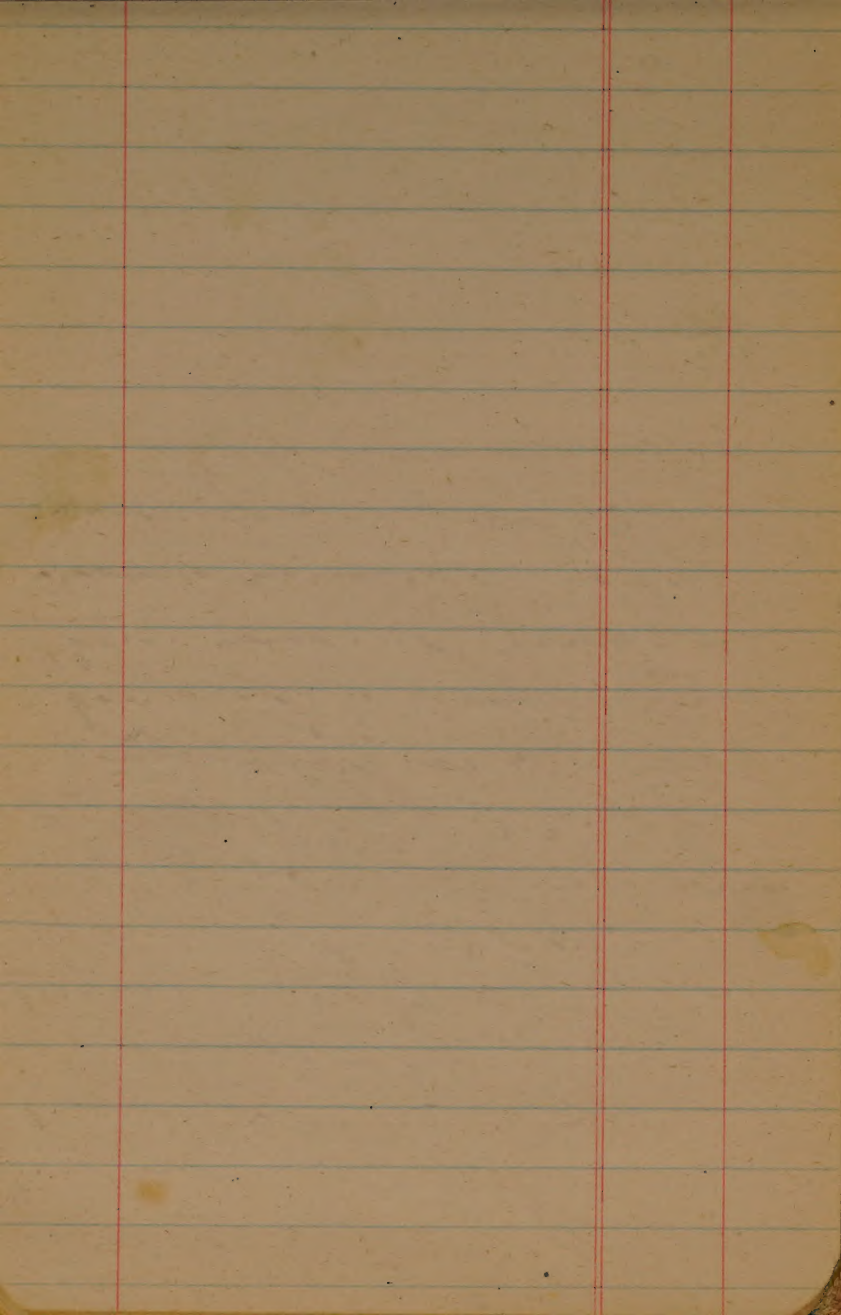
nothing but a towel
about the middle and
from the perspiration
pouring down them, it
looked as though they were
in a Turkish bath. The
temperature is probably
about 90°F. Two large
flues leading from the
main room of the cellar
are used for ventilation.

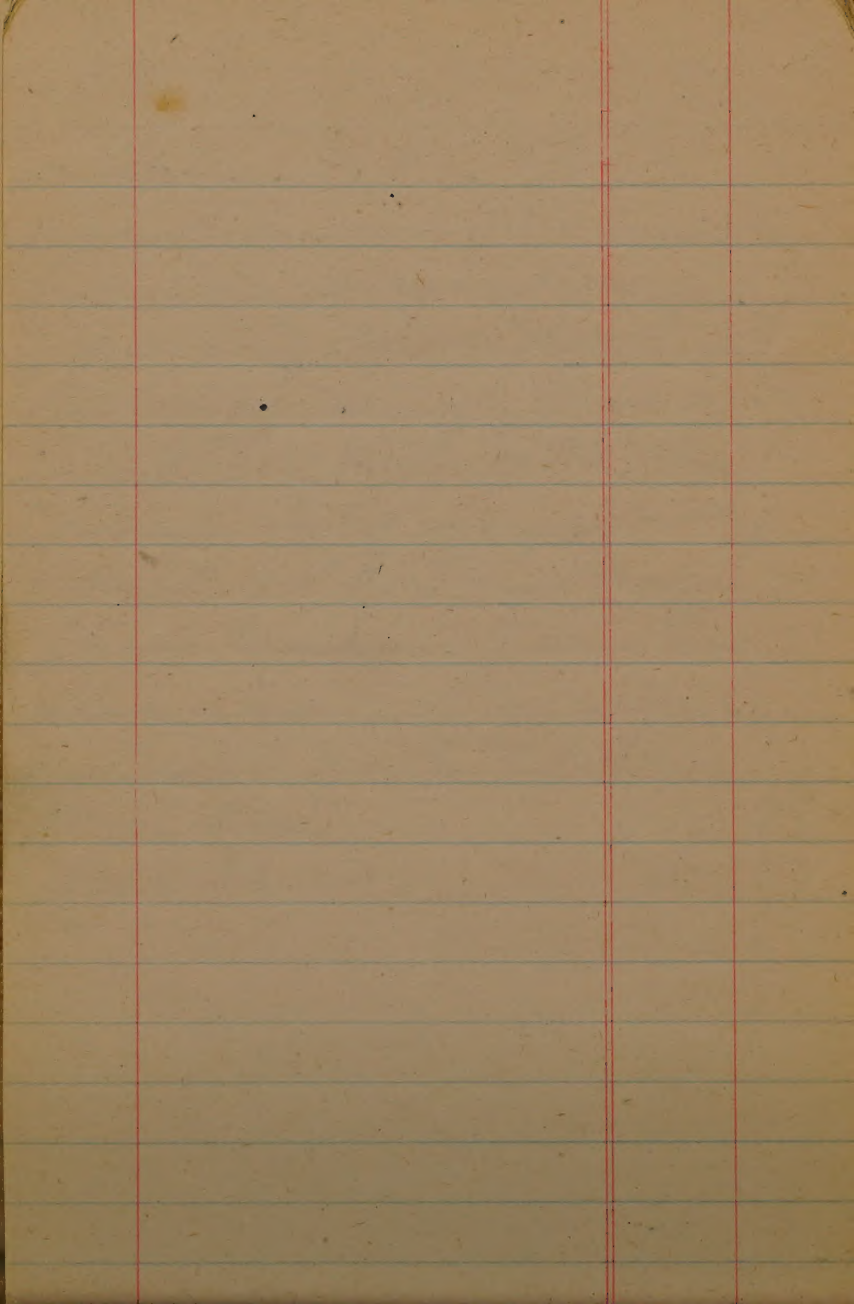
Miso Koji.

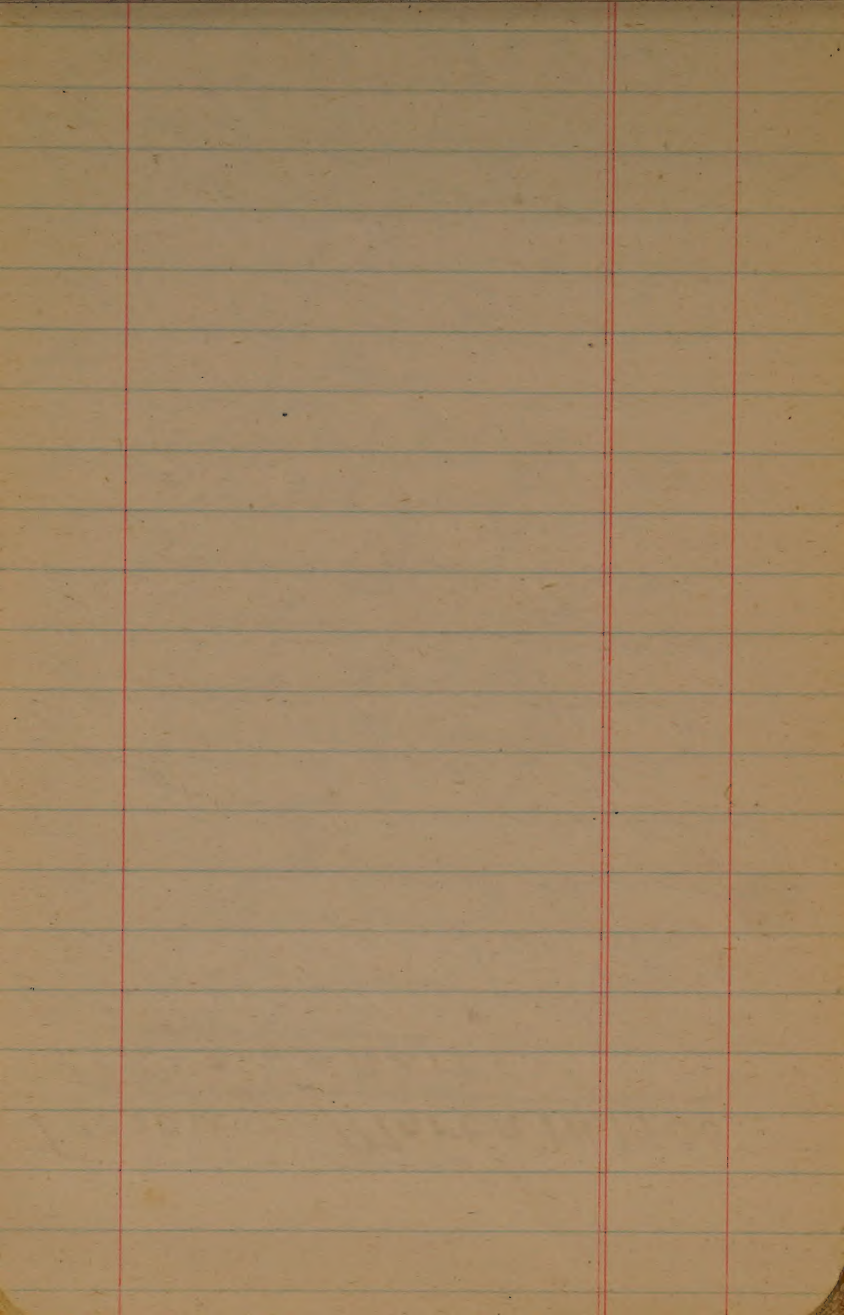
75

White Miso.

50







Tuesday - March 11, 1930.

Tokyo. Japan.

Cold, clear, windy.

Went to office to
check up and number
the seed samples recd
yesterday from the
Bureau of Industry,
Government General
Keijo, Chosen. These
seed samples were
collected from the 13
provinces of Chosen
through the Bureau,
at no cost to us except
baggage postage and
freight which amounted
to ¥ 76.01.

In all, 1863 samples

were received, consisting
of Soy beans (297)

Adzuki beans

Mung beans

Field beans

Field peas

Compeas

Castor oil beans

Perilla seed

Sesame seed

Barley

Rice - Paddy

Rice - Upland

Wheat.

Rye.

Cotton seed

Sorghum

Millet

Buckwheat

Rice beans.

This mail was being
mailed throughout
the day, and some
written up in the
evening.

Five rice straw
sacks with official
stamps of the different
grades of soybeans and
also a coil of rice rope
were received from.

February expense
account mailed to Joe
Mahoney -

Official postage .46

Received phone call
from Dr. Terao, Chief

I have foreseen, of the
Imper. Jap. Dept. of Agr.
Expos. Sta. advising that
he had received the
letter of introduction
written for his friend
Prof. Enomoto, of Kyoto
University who is leaving
shortly to spend a year
of study in the U. S.

Wednesday - March 12, 1930.

Tokyo, Japan.

Sent letter regarding
 $KClO_3$ treatment of seed
for winter hardness
studies to Ryerson,
Pieters and Clabey.
Official postage

Left Shinjuku Sta. 9.30 AM.

Ar. Utsunomiya 9.50 AM.

Went to the Sendai rice
factory where we were to take
photos of rice manufacture.

1 Dry beans.

2 Soaked beans.

3 Steamed beans.

4 Steamed rice

5 Rice mold

6 Koji

7. Mixture of soy & rice for fermenting

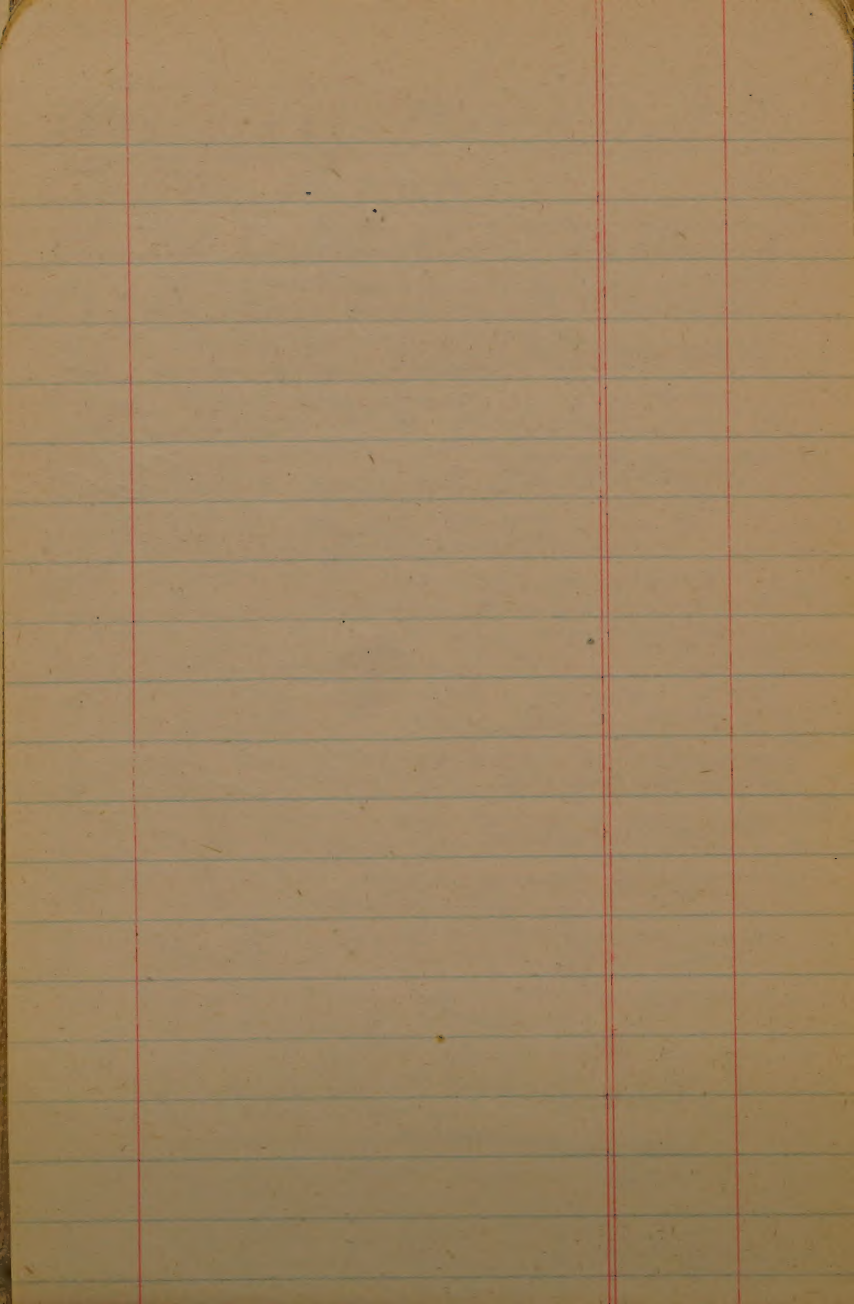
8 - Miso - Coarse

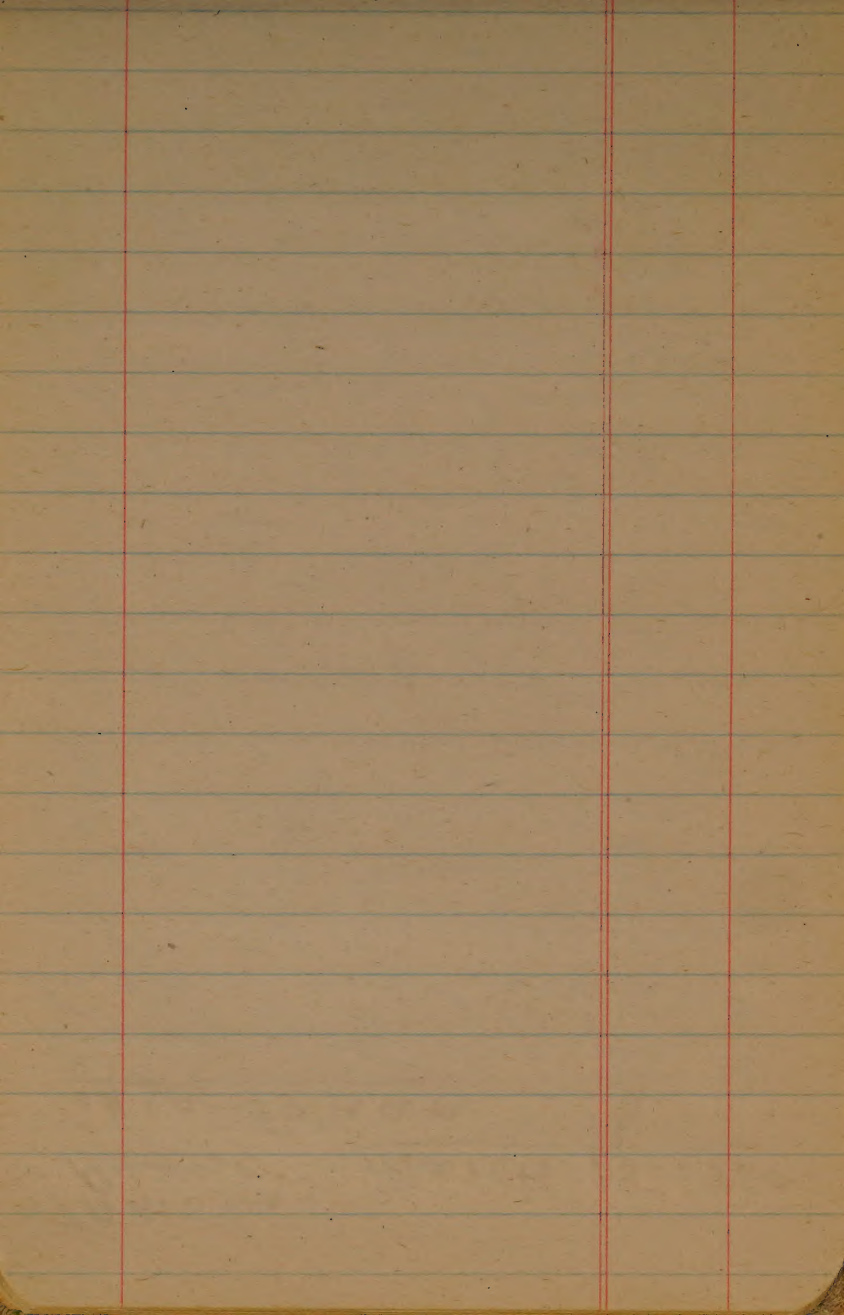
9 - Miso - Ground fine,

At the Sendaï Miso company motion and still pictures were taken of various things connected with the manufacture of miso. Motion pictures were taken of tubs of miso being filled with the finely ground miso. Each tub has 240 lbs. of miso. A close up was taken of a tub of miso.

The miso in this factory is cured for 1 year.

The curing tubs hold 30 koku - 130 bushels each of the mixed beans and rice.





Thursday.
~~Heine~~ March. 13. 1980.
Tokyo-Japan.

Raining all day. Went
to office and worked
on and samples received
from the Bureau of
Industry, Keijo. Chosen.
Samples were numbered
and many written up.
Rained very hard all
during the day.

In the evening went
to a Sukiyaki place
where we had some
unico sukiyaki. This
is made by simply
putting in the dish
with the other ingredients
about two heaping table-
spoonfuls of the finely

ground used. The vine
is more generally
used with clam
sukiyaki.

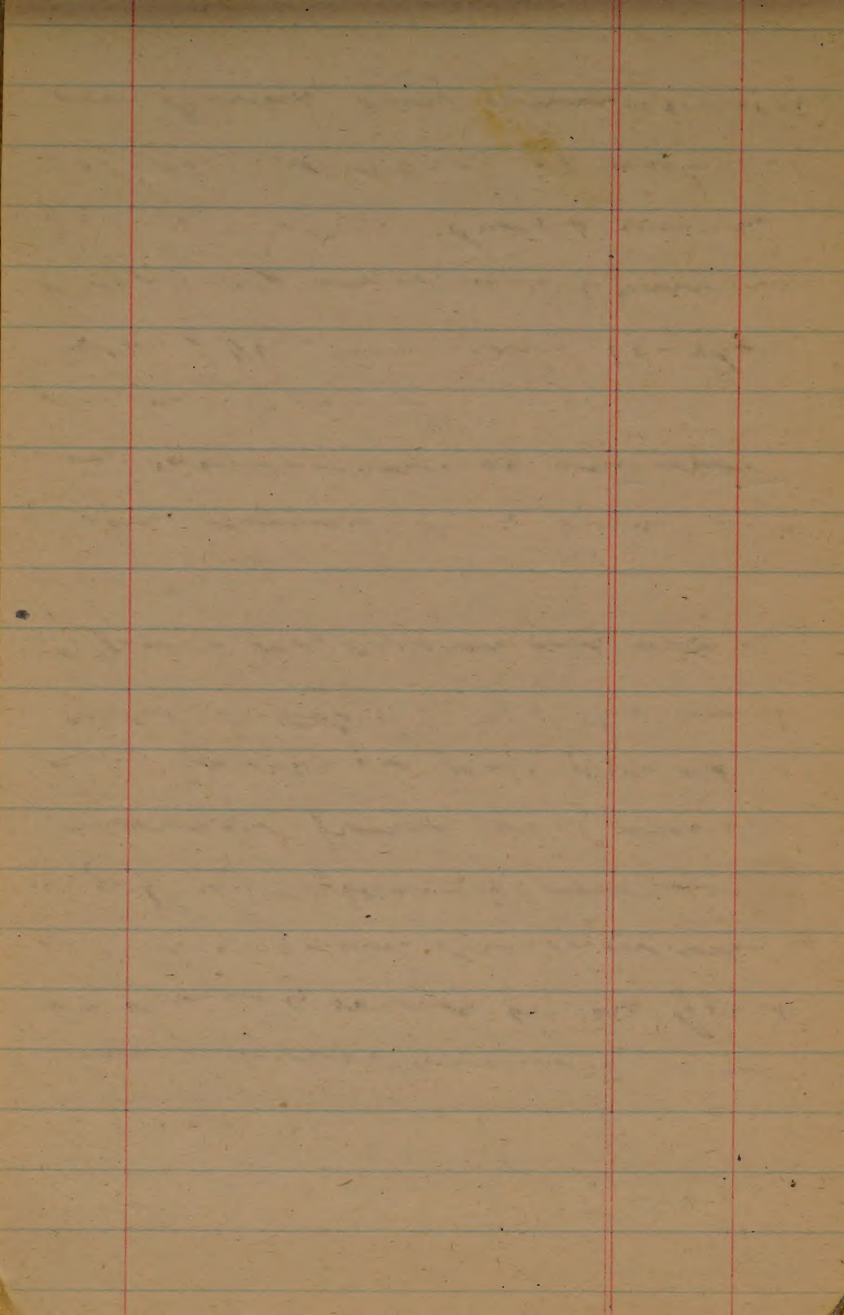
In the evening
wrote up soy bean
samples from Korea.

Friday - March 14, 1980.
Tokyo, Japan.

Clear and mild. In morning went to the office where worked on numbering up the soybean samples received from Chosen. Mr. Yonoo from Fuyuro called at the office and spent the morning with us.

The entire day was spent in numbering samples from Chosen.

In the evening wrote up soybean seed samples from Chosen. There were some excellent varieties in these soybean samples.



Saturday - March 15, 1930.

Today. Japan.

In the morning went to the office, and wrote up the samples of seed and numbered other samples. also numbered up soybean products.

Took motion pictures of the ingredients used in the manufacture of soy sauce.

after lunch went out to the Nippon Jozo Kogyo & Co. Ltd. 102. Utsunomiya-cho, Koishikawa-ku, Tokyo.

Japan where they have a different process of making soy sauce. Mr. Sugitake understood that

they were making an artificial soy sauce.

at the store in connection with the factory we found they were selling miso and soy sauce. a two quart bottle sells for 45 ren where other brands sell for 60 ren per bottle.

We were taken to the office of the President Mr. Togano. It seems that Mr. Togano was a student at the Nishigahara Exp. Sta. Soy Sauce Laboratory and make a special study of the processes of soy sauce manufacture in order to see if the time of curing could not be shortened.

It was found that the time could be shortened.

very much by certain
changes in the methods.

The same ingredients
are used but less wheat
is used. Mr. Togano
estimates that with his
method which is patented
in Japan and the United
States that 400,000 bushels
of wheat can be raised in
a year by the very same
factories in Japan.

Instead of mixing
the wheat (roasted) and
boiled soy beans and
treating with *Aspergillus*
oryzae. The boiled soy beans
are treated with this
mold and then the
wheat is treated separately.

with some cold. Then
The wheat and boiled
soybeans after being
molded are mixed
with the salt and water
and placed in the
curing vat. The method
of molding the roasted
wheat is a secret process
and therefore we could not
obtain information con-
cerning it.

In the manufacture of
soy sauce at this place
the beans are first thoroughly
washed and then soaked
over night. They are then
placed in the steaming
tubs in the morning and
steamed until the next
morning. The beans are
then placed on the floor

over which are scattered
the mold-*Aspergillus*
mycelia. The door floors are
then opened and the beans
dumped into the fermenting
compartments. The beans
are kept in the fermenting
room four days during
which a heavy mold
develops. The molded beans
are then mixed with
the molded cracked wheat
and then the salt water
is added, and the material
placed in the curing vats.
With this method from
20 - 40 days are only re-
quired to make soy sauce
thus taking only about
 $\frac{1}{6}$ the time required

with the old methods.

Numerous vats in the different stages of fermenting were seen, and the mass quickly changes color.

The tubs are covered with boards or covers, and over this placed heavy burlap.

Although only 20 days are required, the mass is allowed to remain

in the tubs 60 days after which the "marin" is

removed, about a gallon placed in small sacks

and pressed out. This

is done by hydraulic

pressure and is the method

used by all soy sauce

manufacturers. Mr.

Togano is trying to

find another method

of pressing out the sauce as this hydraulic method with the many cloth bags is very expensive. After pressing out, the sauce is placed in a large double boiler and brought to the boiling point after which it is placed in casks and bottles.

Another sauce known as "Mamyo Kanro Shoyu" which is a much heavier sauce. This brand of sauce is made by using the ordinary soy sauce in the place of the salt water which is usually added to the

milled beans and
cracked roasted wheat.
This company uses
about 150,000 bushels
of soy beans during the
year at its four factories
in the Tohoku district. It
has several soy sauce
factories throughout
the Japanese Empire
and also a large factory
near Hongkong, China.
This company has a
large foreign trade and
also ships *Aspergillus*
Oryzae to America for
the manufacture of soy
sauce.

We were advised that
that are several Japanese,
small concerns
manufacturing soy.

sauce in the United States. Mr. Togano said that there were such factories in San Francisco, Los Angeles, Chicago, and Cincinnati. The concern in Chicago manufactures the Fuji Brand of Soy Sauce.

Mr. Togano is thinking of locating a factory in the U.S. in view of the increasing utilization of soy sauce in that country.

In the Japanese Empire he advised that the average Japanese family uses about one pint of soy sauce daily.

We were given samples
of the two brands of soy
sauce in two small
sample bottles, also
samples of Kani - the
pressed cake and many
of the forms of advertisement
used by this company.
The advertisement used
by this company is
the most extensive and
also the most unique
of any we have seen
in Japan. They have
three brands of soy
sauce in addition to
the heavy "Sweet Dried"
brand. We were also
given bulletins con-
cerning the manufacture
of soy sauce and
miso. Mr. Togano

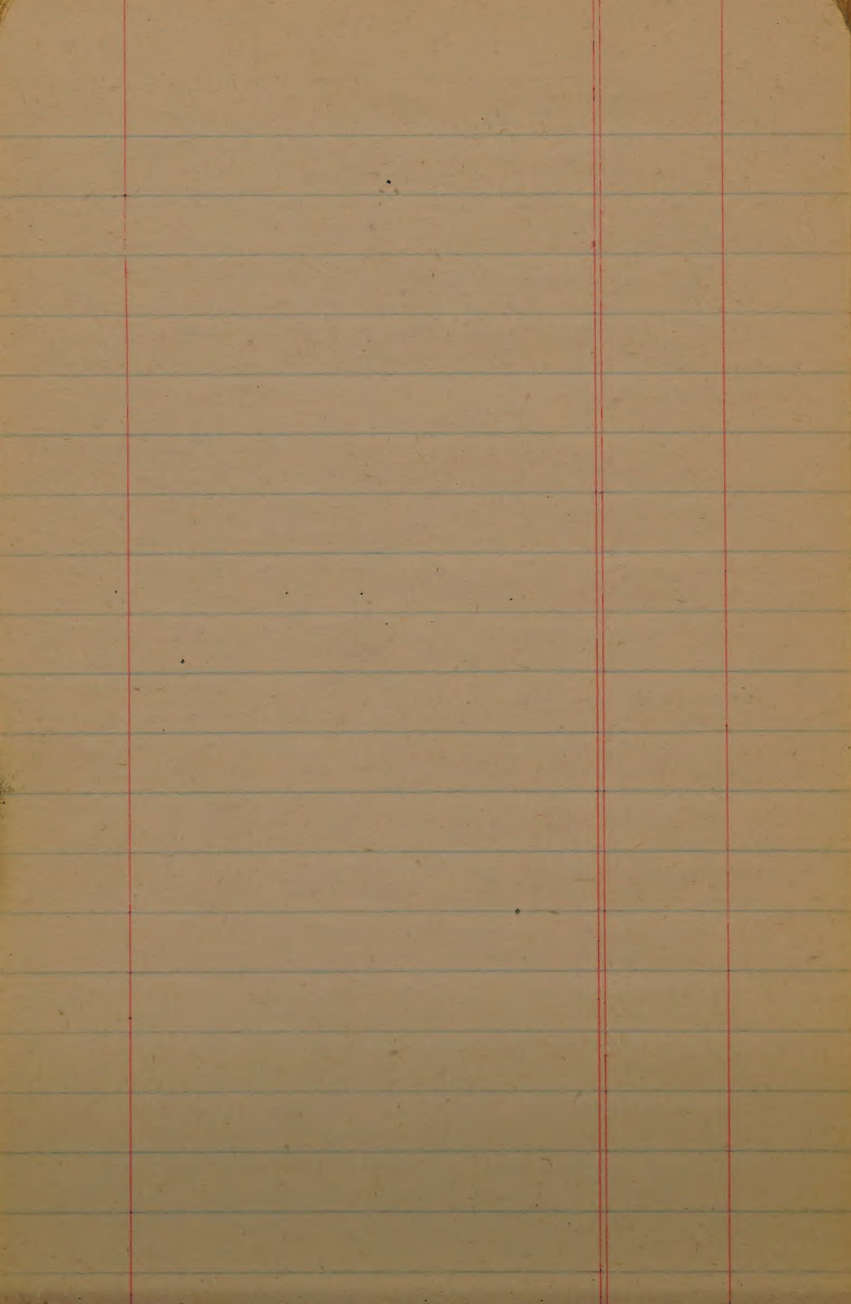
has published extensively
on the brewing of soy
sauce. Having studied
under Dr. Kuroono of
The Department of Agr.
Exper. Soy sauce station
at Mishigami, Tokyo.

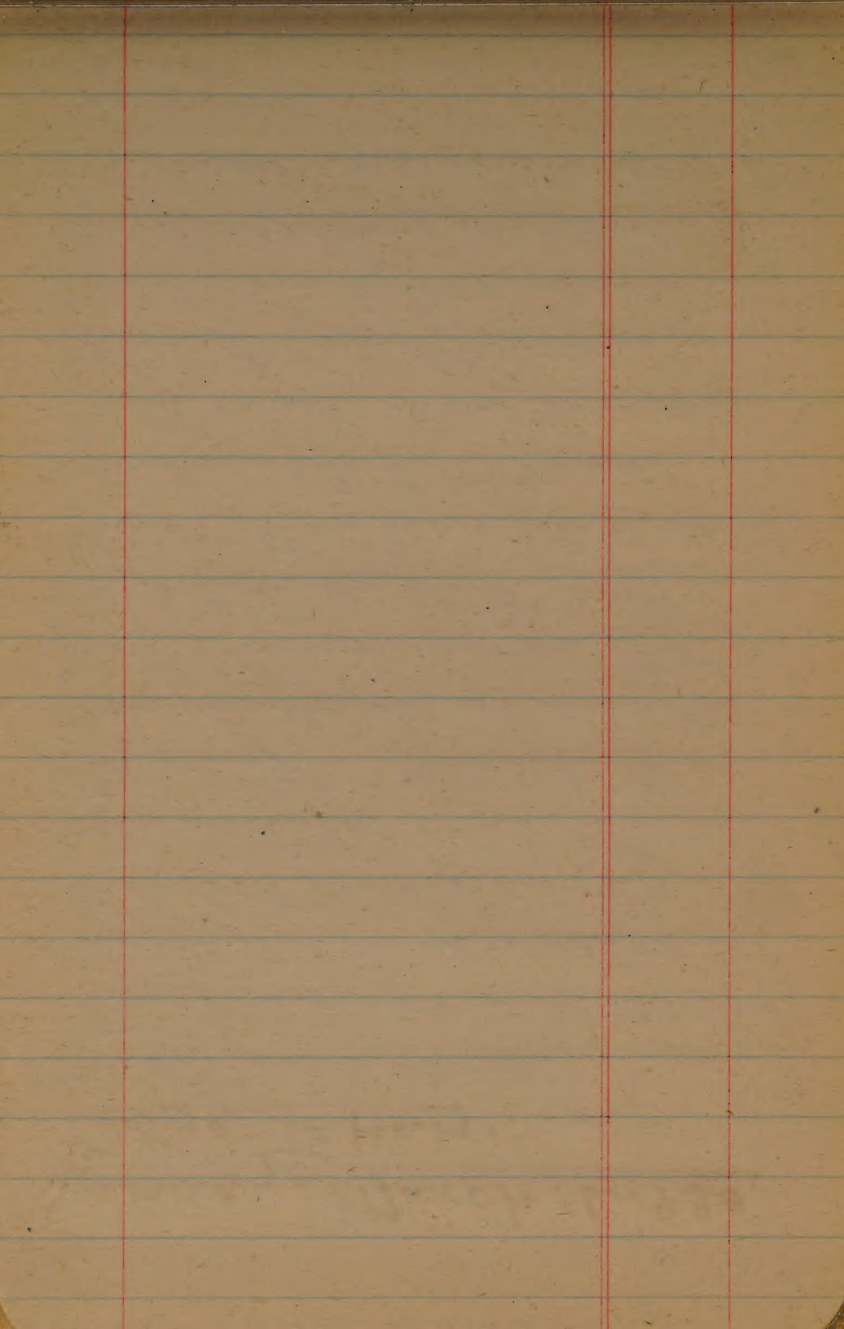
One of the most representative
pieces of advertisements
of the firm is that of a
Japanese wrestler holding
above his head as arms
length a cask of soy
sauce. This is said to
mean that the ~~firm~~
the Japanese wrestler
represents the health
and strength of the
Japanese people, so
soy sauce represents

the health and strength
of the Japanese people.

The pressed cake from
which the soy sauce
is pressed out is sold
for cattle feed mostly
but is also used to a
small extent for fertilizer.
A sample of this was
obtained for complete
analysis as it contains
less wheat than the
samples of this cake
from other soy sauce
factories.

Motion pictures were
taken in the morning
showing the different
ingredients used in the
manufacture of soy sauce.





Sunday, March 16, 1930,
Tokyo, Japan.

Mild and clear.

In the morning worked
on seed and notes.

Visited some of the
department and other
stores after lunch to

see mystran products

but found none that

we already did not

have. In the afternoon

also visited Hibiya

Park and saw many

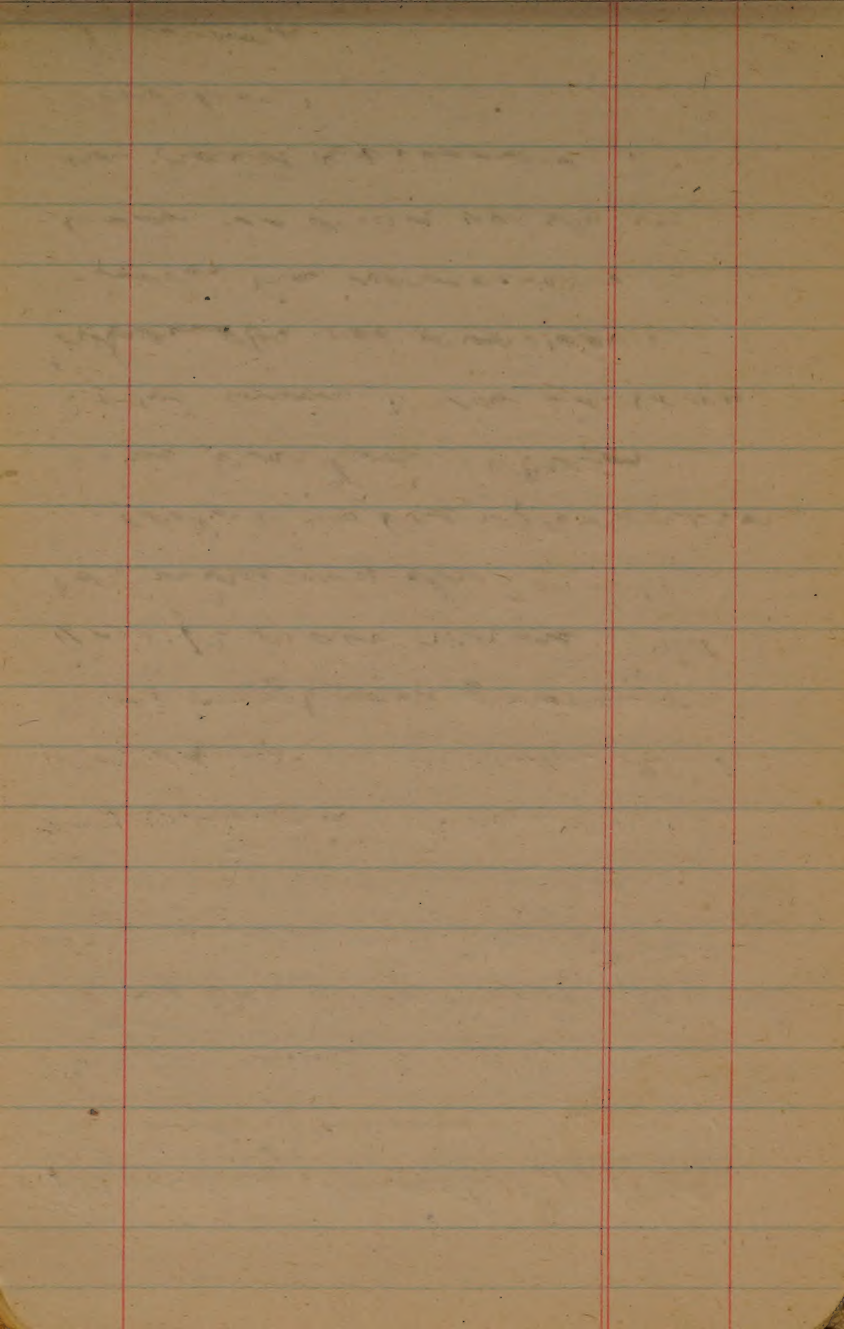
shrubs in bloom.

Late in afternoon

and evening worked

on seed samples from
China.

Postage



coming up an alley
blowing his horn. A close
up was taken of the tubs
and the man lifting
a slab of curd out of
the tub.

At the Yama Masa Soy
Sauce factory we were
met by Mr. Yamaguchi,
the manager, and
were permitted to take
any pictures that we
desired. Photos were taken
of the presser, soy sauce
drum boilers, roasting
(wheat) room, fermenting
room with trays of
beans and wheat in the
process of fermenting or
moulding, the curing
lab room, and the
steaming room.

In the manufacture
of miso, this company
uses about $\frac{1}{10}$ of gluten
rice with wheat. Equal
portions of steamed-rice
mixture and steamed
soybeans are used. In the
soaking the salt water
160 lbs. of salt are used
to 1 koku of water. In
adding water to the moromi
(mixture of unrolled soybeans,
gluten-rice and wheat) 1 koku
of salt water is used to
1 koku of moromi.

The mash is left in
the curing vats for more
than year. Each vat
holds 40 koku of mash.
which when pressed

and yields 30 Koken
of soy sauce. After the
sauce is pressed out
the oil is dipped out
or off from the top of the
sauce. The soy sauce
before being placed in
containers (wooden
casks - $4\frac{1}{2}$ gallons - or earthen
ware jars - $2\frac{1}{2}$ gallons) is
placed in a large double
boiler kettle or tank
and brought to about
the boiling point, this
is then pumped into
large wooden vats or
tubs from whence it
is drawn off in the
small casks.

This factory has
300 large wooden
vats, holding 40 Koken

each, about the large
vat being drawn off
each working day during
the year.

Bean curd man

50

Tuesday - March 18, 1930.

Tokyo, Japan.

Mild & clear.

In the morning went to the department stores and purchased samples of burdock root, eggplant, daikon, cucumber and vegetable melon preserved in miso.

A visit was then made to the office of Foreign Affairs about having our passports viséed but were advised that this could not be done in Japan but would have to be done at some Japanese Consulate outside of

Japan. We were then
sent to the Metropolitan
Police headquarters
to obtain a police
certificate which would
allow us to go and
come in Japan.

After lunch took
motion pictures of
miss products, wrote
up notes on seed samples
from Chosen, etc.

Received four samples
of soy beans from
the Suga Exp. Sta. Makubetsu,
Wakkanai, Hokkaido.

The following products
were received from the
Sendai Miso Co. Tokyo,
Japan showing the
various ingredients used
in the different steps

of making miso.

I - Chosen (Seishin) Soybean
Seed. (Dry)

II - Manchuria Soybeans
Seed (Dry)

III Soaked Soybeans

IV Steamed Soybeans

V Half polished rice

VI Steamed rice

VII Molded rice - Treated
with Koji

VIII Salt

IX Molded rice mixed

with salt

X Miso, after one
week's curing

XI Miso, after one
year's curing

XII Miso, after one year's
curing. finely ground

Wednesday. Mch. 19, 1930

Tokyo, Japan.

Mild & clear.

Went to office and
wrote up notes on rice
samples from Chosen.

Took motion pictures
of ingredients that
are used in the making
of miso. These products
were met in by the
Sundai Miso Co.

Also took motion
pictures of different
miso brands, of vegetables
preserved in miso
and the making of
miso soup by Mr.
Suyetake.

also making miso

soup, the finely
ground miso is
simply put in boiling
hot water and thoroughly
stirred.

In the evening wrote
my seed introduction
from Chosen.

Developed Black and
white Motion Picture
Spools # 41 and 42,

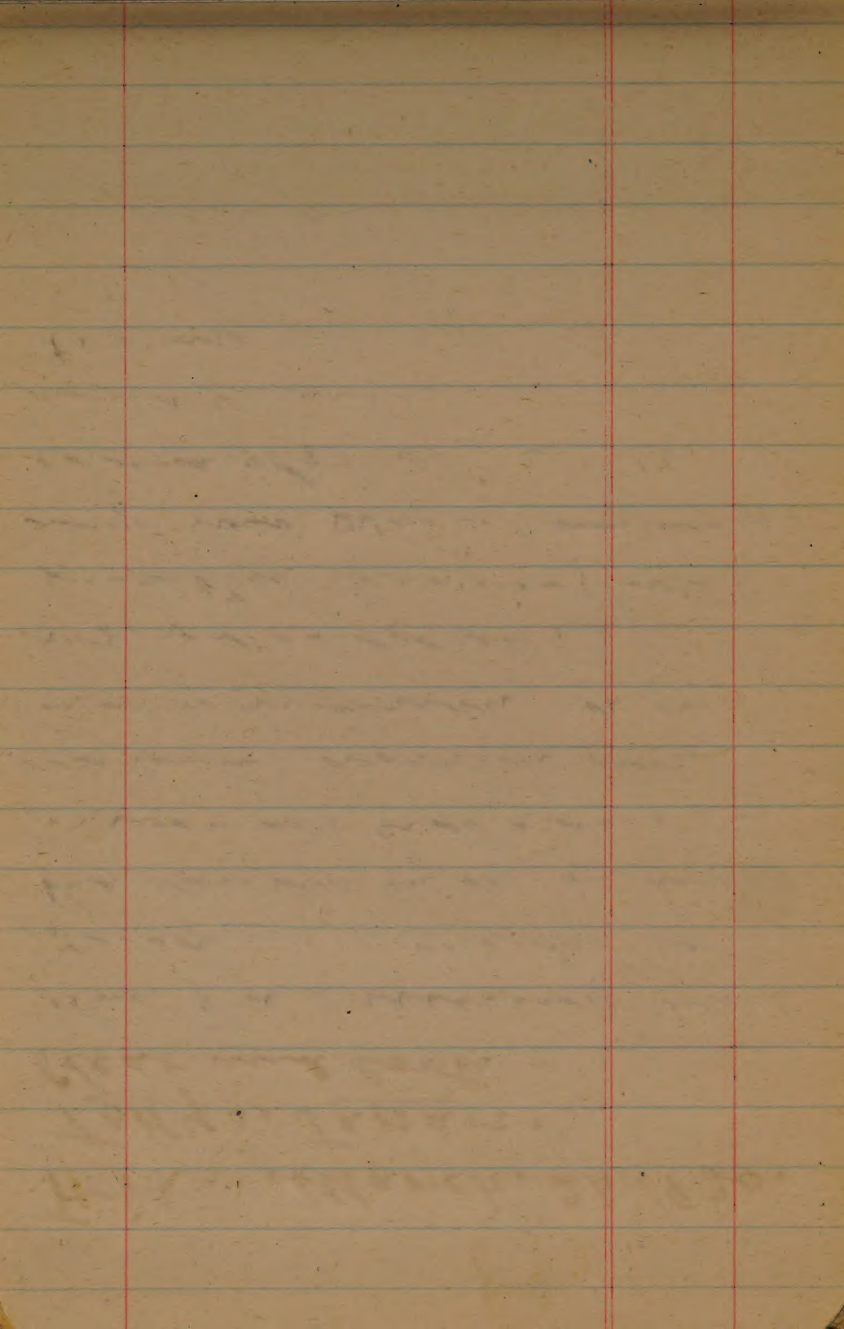
Thursday, March 20, 1930,
Tokyo, Japan

Raining and cold.

Wrote up seed introduction
from Chom during
the morning at home.
Went to office after
lunch: packed soy-
bean products. Wrote
up seed notes.
In the evening wrote
up seed notes and
some official corres-
pondence.

Postage

83



Friday, March. 21, 1930.

Tokyo, Japan.

Clear and Cool.

In the morning went
hunting adzuki bean
products. Adzuki beans
are used entirely for
making sweets
and principally as a
filling, about 35
products were collected,
and two were soybean
products.

1

2

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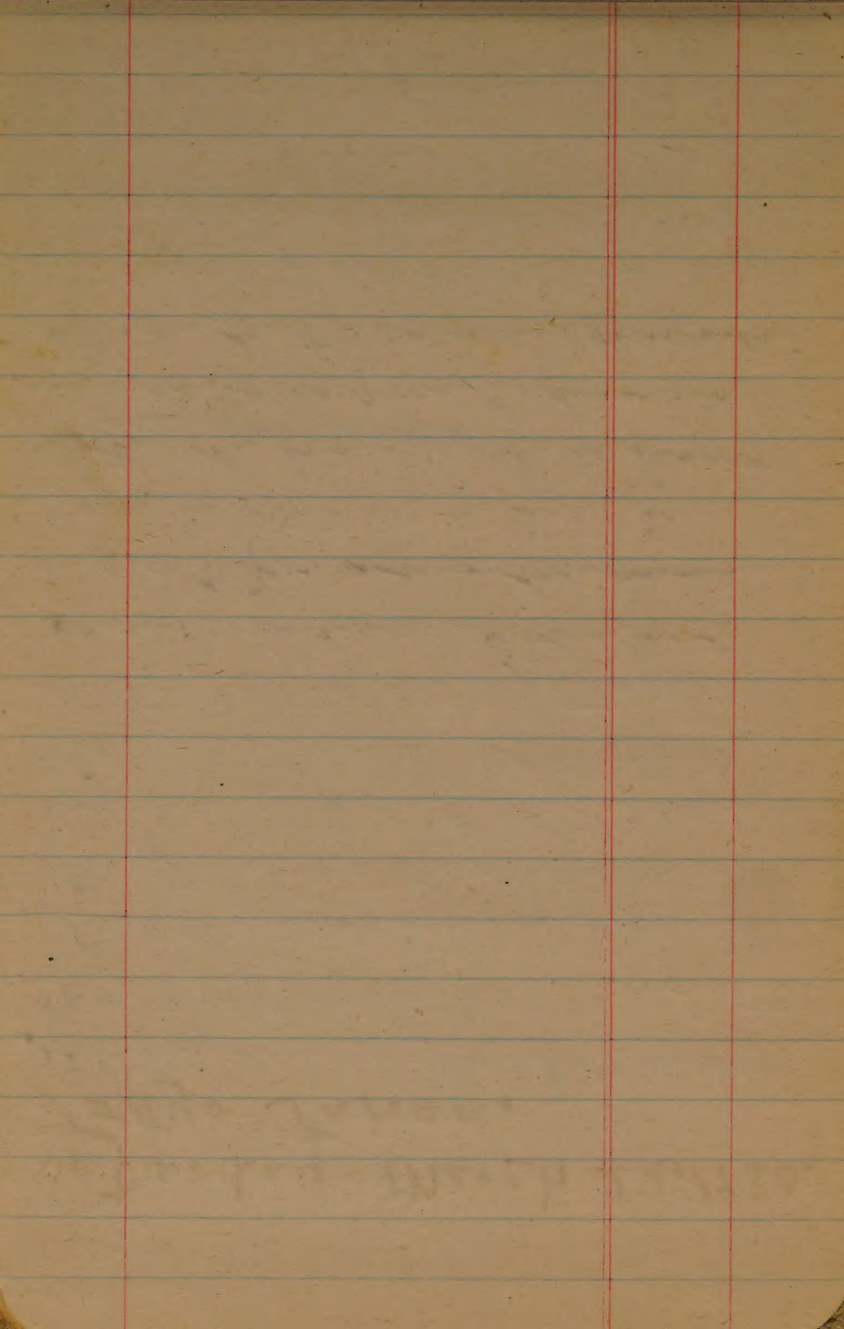
34

35

36

37.

Numbered last bag
of seed from Chocoma.
In evening wrote
up seed from Chocoma
and finished up the
Chocoma baghouse samples.



Saturday - March 22, 1930.
Tokyo - Japan.

Dining and. Mild-Cloudy,
cleaning typewriter 1 00

In the morning went
to office and rummaged
up and wrote up adzuki
bean products collected
yesterday. In afternoon
went out and looked
up other adzuki bean
products.

Adzuki bean paste is used
in all sorts of confections, and
vary with the season. They also
are made to fit the season and
for the various festivals, at
the present time. They are made
in various flower forms.
The following were purchased.

Wrote up notes on seeds - Chocoma
also bought some Kudzua
articles

Burner table board	1	50
with Kudzua vine		

Sunday - March 23, 1930

Mild and clear -

noting notes on birds
from Chosen in the morning
and evening.

Left about 9 A.M. with
Mr. Miyatake for Kamakura.
Arrived about 10.30 A.M.

Visited some of the famous
temples and shrines
at north Kamakura and
then went to Kamakura.

The scenes about the temples
and shrines were very beautiful
and very old as Kamakura
was the ancient capital.
Some very beautiful Japanese
Cedars were noted.

at Kamakura we visited
the famous Daibutsu

and were invisible, costing
each of us 2 perr.

We then went to the Enoshima
island which is called
the city of Mother of Pearl.
There were hundreds of shops
have a great variety of sea-
shells made into all sorts
of things. We visited the cave
and went along the rocky
shore. Divers were diving for
seashells at ~~about~~ much per
diver. At the side of the cliff
at a tea house we had a sea-
food dinner, eating from
a large shell, in which the
meat of the shell had been cut
up and cooked over a char-
coal fire in the shell.

51 N 93 1130

1971½



Dr. Kurant.

